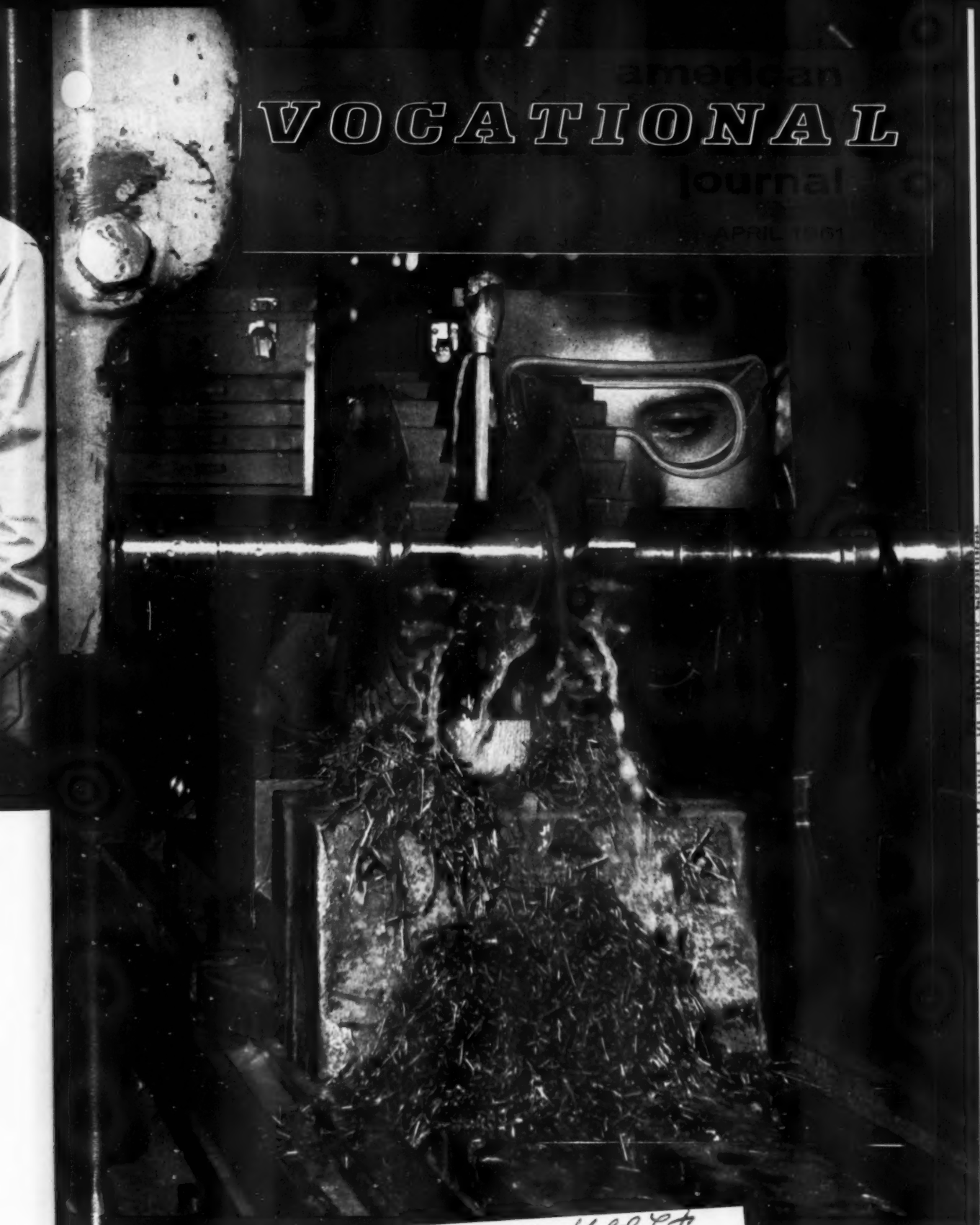
# VOCATIONAL



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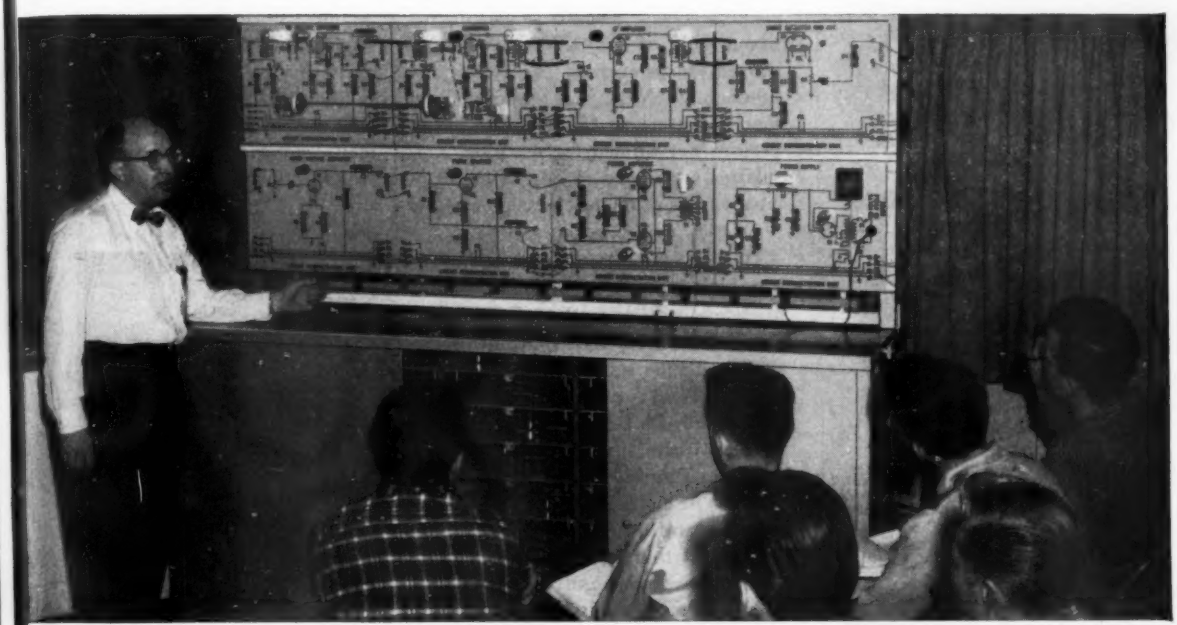

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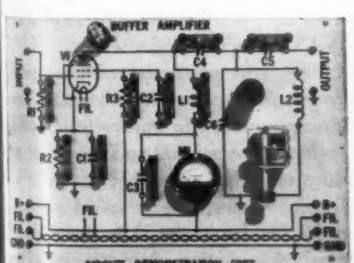


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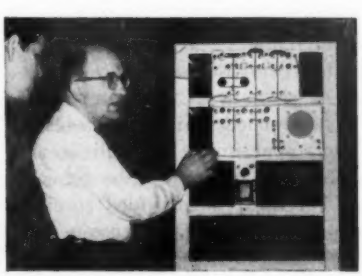

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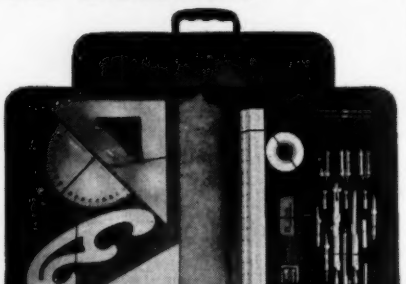

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# HERE . . .

Of last year's college graduates who were trained to teach, fewer than three-fourths actually entered on teaching careers, the National Education Association reports. Those who did become teachers met the demand for about half of the new teachers employed for the current school year. The other half, NEA said, were former teachers returning to the profession or persons not trained for teaching. Low salaries were cited as one of the principal causes of the teacher shortage.

●

Dr. Benjamin H. Van Oot, former T & I supervisor for Virginia, died at his home in Richmond on February 4. Dr. Van Oot, 78, retired from his position with the state in 1956. Born in Oswego, N. Y., he received his B.A., M.A., and Ph.D. degrees from Columbia University. He started his work in Virginia in 1924. Dr. Van Oot was responsible for developing a strong network of industrial arts shops throughout that state. He was a promoter of regional and area technical schools. He also helped develop part-time cooperative training programs for high school juniors and seniors.

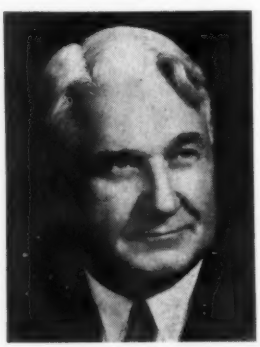
●

Dunwoody Industrial Institute has announced that The Ford Foundation has made a grant to the Institute of $100,000. It will be used over a period of five years by the Institute's International Services Division to develop its international technical training services.

Dunwoody Institute has administered two major Ford Foundation sponsored programs in Indonesia and Burma since 1953. Another smaller Ford Foundation sponsored program has also been under Dunwoody supervision in India. These programs have resulted in the training of over 100 Asians of whom over 80 have returned and have assumed positions of leadership and responsibility. In addition to the trainees at Dunwoody, the School for many years has provided special intensive programs for Government officers and education supervisors studying the American system of technical education.

Another important feature of the work of the Division is the conduct of survey trips by members of the Dunwoody staff in connection with possible future training programs in other countries. These survey trips have included studies in South Korea, Indonesia, Burma, India and Lebanon. Currently the Institute is concerned with the possibility of making surveys which may lead to technical assistance for Nigeria, Sudan and the Congo.

●



**Louis W. Fox**

**The name of the San Antonio (Tex.) Vocational and Technical High School has been changed to the Louis W. Fox Vocational and Technical High School.**

**The man for whom the school was renamed retired in August, 1959, after 50 years of teaching—47 of them in the San Antonio district! He had been director of vocational education and industrial arts since 1917.**

●

At a recent meeting of the Florida Vocational Association a unique awards program was launched. As a part of the annual banquet program all past presidents of the Florida Vocational Association were presented with special citations for having served as president of the state organization. AVA's Executive Secretary, M. D. Mobley, was presented with a special bronze plaque by the Florida Vocation Association in appreciation of his services to vocational and practical art education. The president of the FVA, Don A. Storms, was awarded a special certificate from the American Vocational Association for the contributions he had made as President of the Florida Vocational Association.

# AND THERE

Samuel L. Fick, Chief of the Bureau of Industrial Education, California State Department of Education, was honored at the 23rd annual industrial education conference in Fresno, California, on March 14, with the announcement of a lecture series which was dedicated to him.

The Samuel Leonard Fick lecture on industrial education, sponsored by the teachers and the administrators of industrial education in California, is to be an annual lecture given on the first day of each of the conferences in the years ahead. The lecture for 1961, "The Industrial Education Image," was given by Howard A. Campion, formerly Associate Superintendent of Schools in Los Angeles. Both Fick and Campion are long time members of the AVA and are known throughout the nation for their contributions to industrial education.

Samuel L. Fick

The lecture series will call attention to new values and goals in industrial education; will provide a new vision for the work of industrial educators; and in general become the challenging keynote address which will open each of the annual conferences.

●

The new Clausing 15-inch bench and floor drills are heavy-duty general purpose drill presses which incorporate features for greater accuracy, capacity and efficiency. For example, they are available with choice of positive power variable speed drive that makes instantly available any speed from 500 to 4500 RPM while drill is running—or 5-speed drive with spindle speeds from 410 to 5380 RPM. They are heavier throughout than drills of comparable size, with 3-inch diameter columns for maximum rigidity and accuracy. Other outstanding features include 10" x 14" precision ground tilting table, massive base with 10" x 13" ground working surface, positive depth stop, and front mounted safety switch. For illustrated catalog, write to Clausing Division, Atlas Press Company, 2367 N. Pitcher Street, Kalamazoo, Michigan.

●

The Agricultural Education Division at Cornell University wishes to announce the availability of three graduate assistantships for the coming year. Duties normally consist of such activities as assisting with supervision of off-campus practice teaching, assisting with research projects, and teaching under the direction of a staff member. Although primarily intended for graduate students who wish to work for the Doctor of Education Degree or the Doctor of Philosophy Degree, applications from experienced teachers of agriculture planning to become candidates for the Master of Education Degree or the Master of Science Degree will also be considered. Applications should be filed before April 31, 1961. Application forms, catalogues and further information can be secured from Professor C. W. Hill, Chairman, Agricultural Education Division, Rural Education Department, Cornell University, Ithaca, New York.

●

The annual Idaho conference of all vocational education teachers will be held at Idaho State College, Pocatello, Idaho, June 12-16, 1961, according to an announcement by George E. Denman, Idaho State Director of Vocational Education. The Idaho Vocational Association headed by Seth Forsgren, agriculture instructor of Nampa, will meet in the evenings during the same week. The conference will be held in the Idaho Trade and Technical School buildings and is expected to draw some 300 teachers, supervisors, and teacher educators of vocational education.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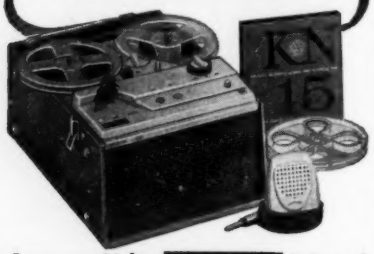

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Two groups of AVA spokesmen-members appeared as witnesses before subcommittees of the Senate Labor and Public Welfare Committee in March.

In support of S. 349 which would extend educational benefits to men entering the Armed Forces after January 31, 1955, the following witnesses presented testimony: William B. Logan, Kenneth E. Carl, Cola D. Watson, Robert Holtzapple, Alan Hawkins, and Foy R. Keith. This group testified on March 1.

In support of S. 987, the following witnesses gave testimony on March 20 and 21: William B. Logan, William L. Cooper, J. F. Ingram, A. E. Robinson, and Walter J. Markham. S. 987 would authorize retraining of persons displaced from their jobs by automation and other causes.

●

Advanced safety devices that provide maximum protection to students are features of a new one-half hp 7-inch grinder for school shops developed by Rockwell Manufacturing Company's Delta Power Tool Division. The grinder is available in both bench and pedestal models. The unit's patented "Twin-Lite" safety shields contain double-strength, shatter-proof glass to protect the student's eyes, even if he fails to wear protective goggles. Inside the shields, bayonet-type bulbs are shaded to prevent glare while illuminating the face and both sides of the wheel.

●

George I. Martin, who retired last December after serving 10 years as Georgia's State Director of Vocational Education, was honored by the Georgia Vocational Association at its annual breakfast March 24 when he was presented with the keys to a brand new Ford pick-up truck which he will use on his farm in Sylvester.

George Martin had spent some 40 years of his life working in the field of vocational education in Georgia as an agriculture teacher, administrator, and as state director of the entire vocational program. More than 1,000 vocational education teachers throughout the State of Georgia contributed toward the gift for their former "boss" who led the vocational program through a period of growth and expansion. The area vocational-technical school program was launched under his guidance, as well as a building expansion of the two state-owned trade schools


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MARCH 1961



# american VOCATIONAL journal

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# Latest Word from Washington

This issue features trade and industrial education. We believe all AVA members should be interested in reading these splendid articles which deal with one of the important phases of vocational education. We are grateful to those who were responsible for preparing them.

THE PRESIDENTIAL BALLOTS were counted on March 18. Page 32 carries a story about the nominee who was elected to serve as President of the AVA immediately following the 1961 AVA convention, which will be held in Kansas City, Missouri, December 4-8. We are certain that the new President -- an outstanding leader -- will have the wholehearted support of all AVA members and leaders throughout the nation. We wish for her a pleasent and successful administration.

PRESIDENT KENNEDY'S MESSAGE TO CONGRESS ON EDUCATION, delivered February 20, calls for an expenditure of federal funds for education of $5.7 billion during the next 5 years. His recommendations, including use of funds, are as follows:

I. Assistance to public elementary and secondary schools for both teachers' salaries and construction of classrooms.

II. Construction of college and university facilities.

III. Assistance to college and university students in the form of scholarships.

IV. Vocational Education: (The full statement dealing with vocational education herewith.) "The Vocational Education Acts, first enacted by the Congress in 1917 and subsequently amended, have provided a program of training for industry, agriculture, and other occupational areas. The basic purpose of our vocational education effort is sound and sufficiently broad to provide a basis for meeting future needs. However, the technological changes which have occurred in all occupations call for a review and re-evaluation of these Acts,with a view toward their modernization.

"To that end, I am requesting the secretary of Health, Education, and Welfare to convene an advisory body drawn from the educational profession, labor-industry, and agriculture, as well as the lay public, together with representation from the Departments of Agriculture and Labor, to be charged with the responsibility of reviewing and evaluating the current National Vocational Education Acts, and making recommendations for improving and redirecting the program.

The conclusion of the President's message carries the following sentence:

"We must give attention to both teachers' salaries and classrooms, both college academic facilities and dormitories, both scholarships and loans, both vocational and general education."

Bills (S. 1021 and S.1241 and H.R. 4970 and H.R. 5266) have been introduced to carry out the provisions of the President's proposals on education. S. 1021 and H.R. 4970 propose funds for elementary and secondary schools, including salaries for teachers and construction of classrooms and funds for federal im-

Please turn to Page 8

# One million people alive today have been cured of cancer! Read why!

**Many cancers can be cured—if detected in time! Your best insurance against cancer is an annual health checkup—and knowing the 7 danger signals of cancer!**

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These are listed below. Study them. Remember them. You might save your life that way!

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1. Unusual bleeding or discharge.
2. A lump or thickening in the breast or elsewhere.
3. A sore that does not heal.
4. Change in bowel or bladder habits.
5. Hoarseness or cough.
6. Indigestion or difficulty in swallowing.
7. Change in wart or mole.

If your signal lasts longer than two weeks, see your doctor. Only he can tell if it is cancer. Guard your family. Fight cancer with a checkup—and a check to the:

**AMERICAN CANCER SOCIETY**

## Prentice-Hall Will Continue Scholarship

Prentice-Hall, Inc., will continue its cooperative scholarship with the Agricultural Education Division of AVA. The scholarship is designed to encourage outstanding college students to teach vocational agriculture. The scholarship award will be $500 from the Pren-Hall Foundation.

Official application forms and notices have been sent out by Prentice-Hall to all teacher trainers and state supervisors. Each state is entitled to one entry to be submitted by the state supervisor for agricultural education. Deadline for submission of applications is July 1, 1961. They should be directed to R. C. S. Sutliff, Bureau of Agricultural Education, State Education Department, Albany 1, N. Y.

## J. R.S Wommack Receives ICA Commendation for Work in Congo

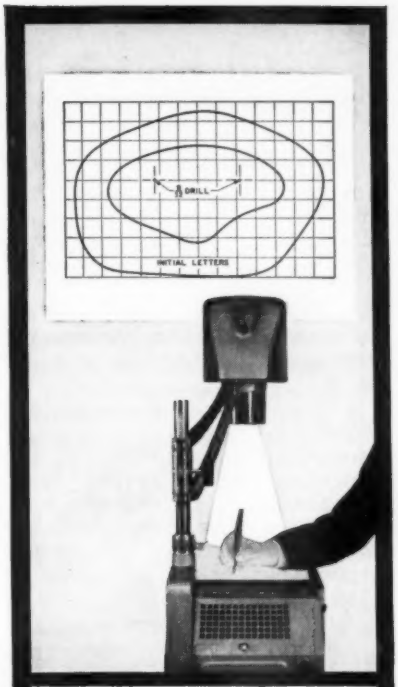
Headquarters office has received a copy of a letter sent to Jamie R. Wommack, formerly with the Georgia Vocational Education Department and now with the International Cooperation Administration. The letter explains itself.

"It gives me great pleasure to concur in the recommendation of the Incentives Awards Committee that you and the other employees who made up the ICA staff in Leopoldville receive the ICA Meritorious Service Citation for your dedicated and heroic efforts during the first chaotic days of the Congo crisis.

"Despite extreme hardships, you helped maintain essential operations of U. S. facilities both in Leopoldville and Brazzaville, and in carrying out these activities several of the group were threatened and beaten by armed Congolese.

"This record of tireless and valuable service, despite personal discomforts and very real danger of injury or death, reflects credit of the highest order on this Agency and the United States Government. . . ."

s/ JAMES W. RIDDLEBERGER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pacted areas. S. 1221 and H.R. 5266 authorize funds for the construction of college and university facilities and assistance to college and university students in the form of scholarships. According to the press considerable controversey has already been raised regarding these measures. Only time will tell their outcome.

THE ADVISORY BODY to review and evaluate vocational laws and programs authorized in President Kennedy's message on education is in the process of being selected by The Honorable Abraham Ribicoff, Secretary of Health, Education and Welfare. AVA leaders were requested to submit a list of names from which the "Advisory Body" members might be selected. Such a list has been submitted.

The Secretary of Agriculture and The Secretary of Labor will be requested to name representatives of these two Departments of the Federal Government to serve on the "Advisory Body".

There is much evidence that the members of the "Advisory Body" will be carefully selected and will be individuals who have a knowledge of vocational education and its future needs and who are interested in seeing the program expanded and improved. Your AVA is doing everything possible to cooperate with the authorities who are responsible for appointing the "Advisory Body". It will be AVA policy to cooperate fully with the group once it has been appointed. It is my belief that the "Advisory Body" will make an objective, constructive study that could prove of great value to the effectiveness of vocational education in future years.

COMMITMENTS TO VOCATIONAL EDUCATION: All AVA members are familiar with:

(1) the planks in the National Democratic Party Platform pledging "further federal support for all phases of vocational education for youth and adults" (see page 6, September 1960 AVA JOURNAL),

(2) the letter of August 17, 1960 written to me by President Kennedy in which he answered "yes"to the question, "Are you in favor of increasing federal funds for vocational education to states on a grant-in-aid basis to be administered, as at present, by State Boards for Vocational Education?" (See page 22 October 1960 AVA JOURNAL), and

(3) the October 16, 1960, Kennedy Press Release in which he stated, "I am in favor of continuing the appropriation of federal funds for vocational education at the full amount authorized under the various vocational education acts, and where justified, I am in favor of expanding vocational education on a grant-in-aid basis, to be administered by State Boards for Vocational Education."

All of the above facts have been placed in the hands of Secretary Ribicoff and two of the Assistant Secretaries of Health, Education, and Welfare. This means they are familiar with the commitments that have been made for "further federal support" for vocational education, and I am convinced that in due time they will do all they can to see that these commitments are fulfilled. They will have to be convinced, and should be, that the program is headed in the right direction and is operating effectively to meet definite present-day-vocational training needs. This is as it should be. No honest person wants to be a party to expanding a program of any kind unless the program is up-to-date and serving a needed, useful, purpose.

Regardless of the outcome, I will keep you informed. You shall know the truth -- good or bad -- if it can be obtained, and I think it can.

Sincerely Yours,

M. D. Mobley

M. D. Mobley
Editor-in-Chief and AVA
Executive Secretary

A. H. Hughey, former superintendent of the El Paso Public Schools, and life member of AVA for 25 years, passed away on March 10. Among his many contributions to vocational education, Mr. Hughey established the first vocational high school in Texas and started the first junior college in Texas as a part of the school system. He retired in 1951 after 32 years with El Paso schools. He was 79 at the time of his death.

●

Each year the Georgia Vocational Association will present a life membership in the AVA to one classroom teacher, reports Mrs. Ellen B. Coody, president of the GVA. The Executive Board of the Georgia Association recently took this action.

The teacher will be selected by the individual service for outstanding work in his or her field. Says Mrs. Coody, "we feel this is a great step forward in encouraging professional growth on the state and national levels."

●

Elgin L. Hall, Chairman of Orange Coast College's Division of Agriculture, writes that he'd like some help. It seems he's taking a sabbatical "starting as soon as school is out in June" to survey colleges which have agricultural programs. Topic for Mr. Hall's study: agriculture and agribusiness in the United States. He plans to visit as many colleges as possible during his leave of absence—about 150 are presently scheduled, and he's looking for more.

Mr. Hall has sent out 286 initial questionnaires to as many college directors. Those who wish to participate in his study then will be queried in person by Hall during his lengthy trip around the country. A second questionnaire will be filled out "on location." He will ask such questions as how many teachers do you have in agriculture?, do you have a major in agribusiness?, how many acres in your school farm?, and where do your agricultural graduates go after college? In all, about 75 answers are required from each institution.

Those who may wish to participate should contact Elgin M. Hall, Orange College, Costa Mesa, California.

The May issue of the *Progressive Farmer* magazine, largest circulation farm periodical in the South, will carry an article by Mark Nichols. The subject: Russian agriculture. Tentative plans are being made to reprint this article in the *Journal* in the fall of 1961.

●

In addition to the annual questionnaire survey of practical nursing programs, this year a nationwide study of practical nurse education is being made under the sponsorship of the National League for Nursing with the cooperation of the U. S. Office of Education and the U. S. Public Health Service. A committee composed of representatives from vocational education, nursing education, practical and professional nursing, and consumers of practical nursing, began work on the project in April of this year. Chairman of this committee is Dr. Melvin L. Barlow, Director, Division of Vocational Education, University of California, Los Angeles, California.

Data collected in the annual OE-NLN questionnaire will not be duplicated in this supplemental schedule which is intended to gather more detailed information on the content of each practical nursing program. The data collected in both questionnaires will be used to help develop criteria for an acceptable school in accord with current practices. Individual school information will not be released nor will it be identifiable in published reports.

This will be the first comprehensive study of practical nurse education ever made. A similar study of professional nursing education made at the mid-century has proved invaluable in program development and improvement. It is felt that such a study of practical nurse education would be particularly timely now.

In order to obtain the desired data, questionnaires will be mailed to all State approved practical nursing programs this fall on or about November 1. It is hoped that schools will give to this study the same excellent response that has been given to the OE-NLN study each year. A report of the completed study of practical nursing programs is expected to be released by the National League for Nursing soon after the first of the year.


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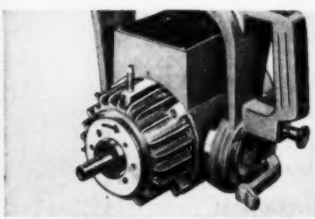

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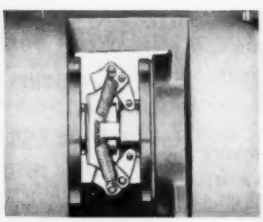

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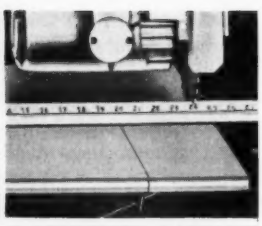

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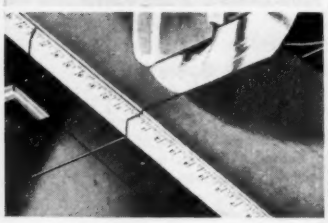

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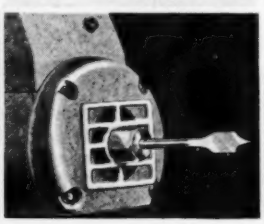

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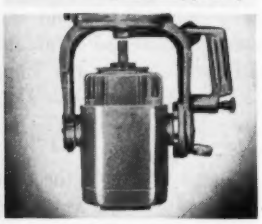

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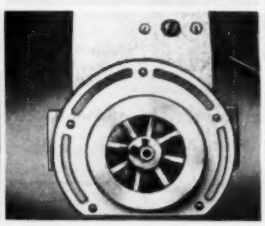

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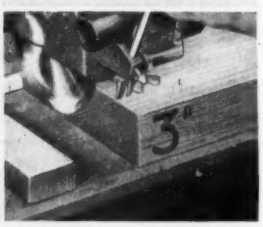


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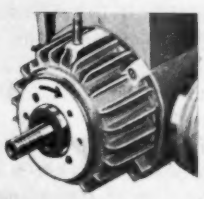

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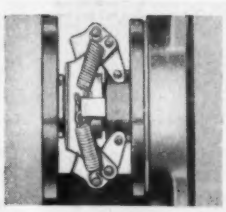

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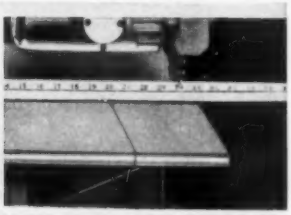

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**DROP-LEAF SAFETY TABLE**
eliminates exposed saw up-front
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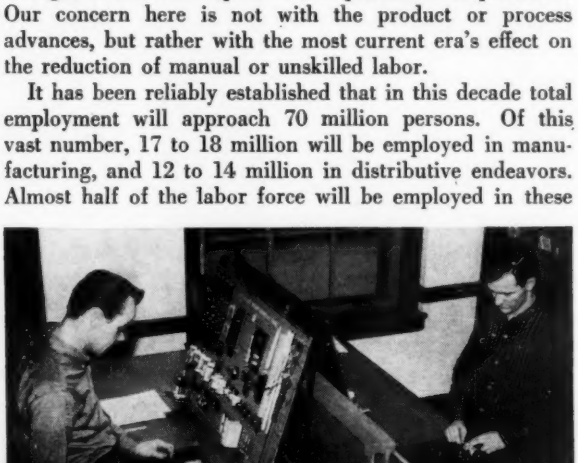
# THE DEMANDS OF AUTOMATION

Howard O. Mueche
Universal Scientific Co., Inc.
Vincennes, Indiana

THE "INDUSTRIAL REVOLUTION"—the "Era of Mechanization"—the "Age of Automation"—are somewhat descriptive but not really accurate phrases attached to the progressive stages of industrial technology. The period of so-called "Mechanization" was no more than a logical extension of the "Industrial Revolution," even as "Automation" is a natural evolution from "Mechanization." Already the "Day of the Computer" is upon us as the next transition.

The common thread which weaves itself through technological advances in terms of these periods is characterized by a substantial stride in the reduction or elimination of manual or menial labor. Each period has, of course, brought to fruition a spate of new products and processes. Our concern here is not with the product or process advances, but rather with the most current era's effect on the reduction of manual or unskilled labor.

It has been reliably established that in this decade total employment will approach 70 million persons. Of this vast number, 17 to 18 million will be employed in manufacturing, and 12 to 14 million in distributive endeavors. Almost half of the labor force will be employed in these two areas alone, with manufacturing representing approximately 25 per cent, or the largest single segment.



**Apprentice Electricians learning basic electricity through planned experience. Courtesy of The Youngstown Sheet and Tube Company.**

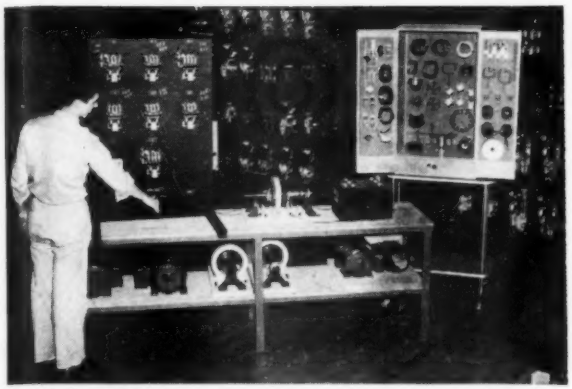
For this appraisal only the manufacturing category is being considered, although the ramifications of progress have equal bearing in the other areas of vocational education.

Automation may be defined as a sophisticated mechanization that integrates material handling, fabricating and processing with some degree of control or self-regulation. It should be stated further that automation yields its greatest returns if one or more of the following conditions exist:

(a.) A high labor content;
(b.) A repetitive series of operations;
(c.) Discrimination or judgment beyond human faculties.

To date automation has made its greatest strides in industries that fall under (a.) and (b.), and is rapidly delving into areas delineated by (c.). These may be exemplified by the coal mining industry, the steel industry, the automobile industry, the electronics industry, and the development of complex guidance systems and process control centers.

*Automation displaces jobs, but does not in itself create unemployment.* This may sound heretical to many, but the facts, nonetheless, refute arguments to the contrary. Automation tends to eliminate the least skilled (in a few instances, very highly skilled) functions, while simultaneously creating a demand for more elevated skills. The new jobs and the new skills created may not be in direct proportion at a particular time and place, yet in almost every instance when the total impact is analyzed, additional employment is created somewhere. This is no solace to the worker who has been displaced, but does serve to sharpen an otherwise fuzzy perspective. What is of import to the worker is that *automation demands more and greater skills, knowledge, and training.*



**Electrical Maintenance Supervisory Trainee puts theoretical knowledge into practice. Courtesy of The Youngstown Sheet and Tube Company.**

Direct or productive labor has decreased from 13.8 million to 12.5 million in 1959, while the number employed in non-productive or overhead functions has risen from 3.4 to 4.1 million. That the total of both direct and indirect employment may have fallen over-all cannot be imputed to automation, but rather to other economic factors. In truth, were it not for automation, the drop in employment would have been greater because only by producing goods cheaper can a reluctant market be stimulated.

Mining and farming have both reached the peak of their employment levels, and little likelihood of employment gains exist. It seems likely that direct productive labor has reached its zenith, and the downward trend will continue, while the overhead functions will forge ahead in the opposite direction.

The individuals affected can, rather arbitrarily, be divided into two categories: those older workers who are a part of the work force and whose particular endeavors may be immediately threatened, and those workers who are still undergoing training (vocational classes, apprentice programs, etc.). Each group has problems unto itself, but the need for further training represents a common denominator.

The group that is still learning and is preparing to take its place in the economic society may very well represent the displaced worker of 1970—or, what is of sterner consequence, it may even represent the displaced worker of the Sixties.

An individual who has been taught to operate a lathe, drill press, or virtually any production machine tool, is potentially a displaced worker. In the next three or five years his machine may be replaced, for example with a Sunstrand Automatic Lathe, eliminating the operator entirely, but requiring a host of designers, print anlyzers, programmers, and technicians to sustain it. Which of these new skills can the operator fill with five or even ten years' lathe experience?

Assume, on the other hand, that this individual had received perhaps a more limited training in specific manual skills and a more comprehensive training in the theory of basic design factors, metal removal, basic electricity,

**Please turn to Page 42**

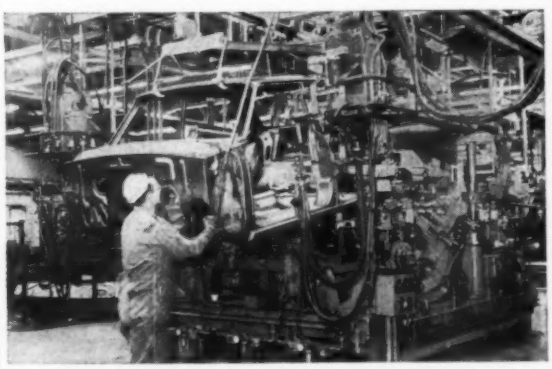
# AUTOMATION
## AS FORD SEES IT

The word "automation" made its formal debut at Ford Motor Company when a group of production engineers designing work-handling devices was designated the "Automation Department." That group began operations in 1947. From that beginning, applications of automation have broadened substantially beyond the original concept. Today, Ford engineers view automation as embracing all aspects of manufacturing—designing, producing, inspecting, assembling, testing, handling and packaging.

Automation at Ford conserves manpower, but it does not eliminate men from the industrial scene. Automation has created more new jobs at Ford than the number it has displaced. It has reduced or eliminated hazards, drudgery and physical effort. The muscle power required to load and unload machines, to lift sheet steel into and out of presses and to turn parts over to examine for quality are examples of the manual energy that is being conserved. Machines now work for men rather than men for machines.

Despite the apparently popular notion that there is an identifiable group of people displaced by automation or other technical change, careful internal analysis at Ford can find no evidence to support the idea. One of Ford's veteran manufacturing executives has noted: "We have not only increased our own work force, but we have been responsible for a large number of employees that have been hired by the machine tool builders, instrument makers, and electrical and electronic equipment makers who supply us modern machines and equipment."

The reduction of accident rates, both frequency and severity, on automated operations as opposed to those in non-automated areas has been nothing short of amazing. In years gone by, an increased accident rate invariably went hand in hand with increased production. Automation cannot take all the credit for this wonderful improvement, but certainly it can take credit for a good part of it.



**A 1961 Ford body is shown being removed from an automatic welding fixture at Ford's Norfolk assembly plant. In this fixture the sheet metal components for the car's roof, floor pan, front cowling, rear quarter panels and sides are first assembled, clamped in place, and welded together as an integral unit by the fixture's automatic welding guns.**

THE PLACE OF THE PROJECT

# The Project's Place—*By Design*

**Wesley S. Sommers**
**Stout State College**

THE EXACT "place of the project" in industrial arts is still not clear. It is possible that many of our arguments are due to semantics about the term "project." However, many disagreements as to the "place of the project" still exist. Despite these disagreements, most of us will agree with Fales and Orendorf that "undoubtedly the take-home project will occupy a place of prominence in industrial arts in the future as it has in the past." [1] While we generally agree that the take-home project is here to stay for awhile, most of us are greatly concerned that project design is often awkward and insensitive. In other words, too much of the future of industrial arts is riding on vague and immature concepts of project design.

The outcomes from poor project design—and designing—are many and severe. It has been pointed out that the successful achievement of most of our professional objectives depends to some extent upon our ability to handle design in industrial arts.[2] We simply can not achieve industrial arts objectives without a more mature concept of project design than we now have.

Poor handling of project design undermines our relationships with all of the groups that are important to our future success: students, parents, other teachers, administrators, and the public in general. In addition, our own morale is lowered by embarrassment about design. Incompetent project design provides visual proof that we understand neither industry nor creative expression. It belies our industrial arts title.

What is the answer to our design ills? The old adage, "When you are sick see the doctor," has not provided the answer. Our professional attempts to improve industrial arts design have not been adequate. Many competent persons in our field have spent much time trying to solve our design problems. Individuals have studied design, and then have written articles, conducted workshops, and have organized courses about design. Organizations have put on special programs featuring films, artists, and industrial designers. The net result of all these efforts seems to have been the equivalent of administering first-aid to a patient really needing major surgery for survival. Possibly by these individual efforts, and the process of evolution, we will find the answer. More likely, however, the patient will have been long gone by the time we find the answer in this manner.

The major purpose of this article is to present a proposal to be acted upon by a national industrial education organization. It is offered for immediate action. It is not offered as an interesting conversation piece. In essence the proposal states that we should call upon the services of design specialists—persons who are professionally competent to diagnose our design ills, prescribe the correct therapy, and carry out the required actions before the patient dies.

It is proposed that a national industrial education organization contact a professional industrial design society (i.e. the American Society of Industrial Designers) to present our design problems with a request for help in solving these problems. The intent of this contact is to secure the services of an industrial design organization to provide us with needed design assistance.

What kind of help could an industrial design organization provide? First, it could provide the radical surgery needed on the projects we are now using. It could provide projects that would fulfill our needs as adequately as do our present projects. And it could give us reasonable assurance that these projects are well designed. In addition to preparing an initial group of projects, an industrial design organization could be retained to periodically provide additional designs so as to enlarge the number of available projects and to assure reasonable concurrence with contemporary design. The cost of such a service would probably not exceed that of existing project books, most of which are loaded with poor or mediocre designs.

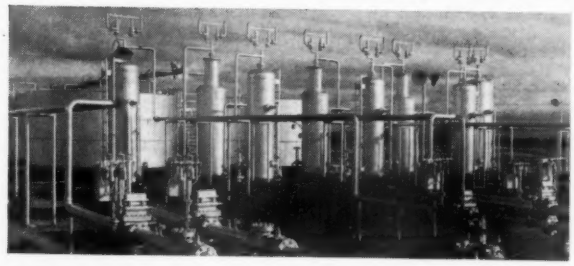
A second type of help that could be provided, and by far more important, would be to help revitalize the patient. This kind of help could consist of project plans that encourage and guide student designing while at the same time providing enough controls to assure a reasonable end product. Revitalization of the patient would also include counseling services for the development of teacher design competencies.

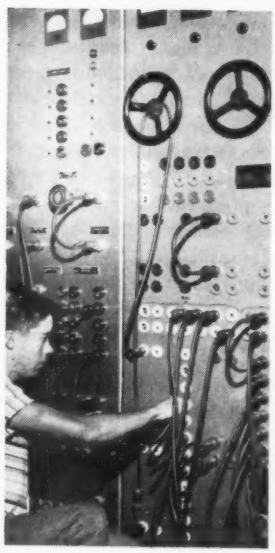
Could an industrial design firm actually provide us with projects that would fit our shop needs? Undoubtedly an organization that can successfully provide design answers for the com-

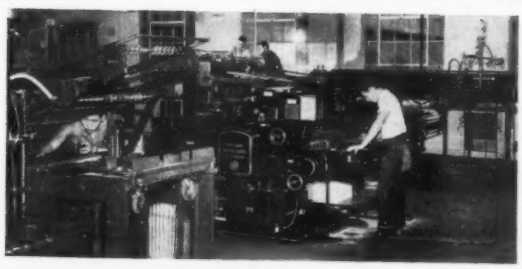
**Please turn to page 24**

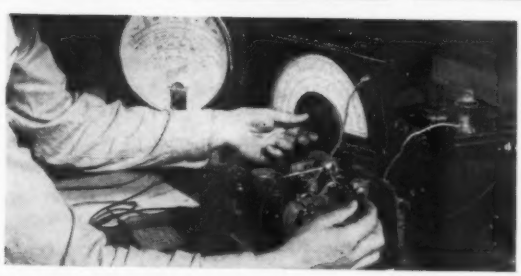
[1] Roy G. Fales and Roy V. Orendorf, "Projects—Or What?", American Vocational Journal, 35:3, March, 1960.

[2] W. S. Sommers, "Design or Art?", *School Shop*, 17:9, November, 1957.









T&I

# *Vistas in Trade, Industrial*

TECHNOLOGICAL progress is the most important single physical factor shaping all teaching and learning experiences. While new materials, new methods, powers, and products are vital in meeting man's needs, industrial educators should be aware of the fact that it is not the speed with which these developments are taking place that is significant, but the constantly increasing rate of acceleration.

With this momentum, by the turn of this century there will be no facet of the progress as we now know it . . . in atomics, nucleonics and electronics . . . in the biological, physical engineering or chemical fields . . . in fact, in every known scientific discipline . . . that will not be looked back upon as a crude beginning.

More and more the peoples of the world will understand the fundamental truth that under critical examination there is no conflict between science, technological advances and the training and education of the individual . . . and that in this land of technology Americans enjoy freedom from want, ignorance and disease; political equality through universal suffrage; civil freedoms; cultural advantages; and more widespread and diversified education than any pre-scientific society. The preservation of the freedoms and liberties guaranteed in our constitution becomes increasingly more valuable because technological advance nurtures best on freedom and abundance.

Now, along with these technological advances, all in industrial education are aware of the statistics released about the nation's work force of 71 million, a countrywide population of 180 million, the accelerating birth rate, the growth in gross national product, increased productivity resulting from greater investments per worker, the increasing number of women in the labor market, and other socio-economic truisms. In other words, the accomplishments are impressive and the numbers are, seemingly, without end.

A concomitant force to technology is one which continues to draw together human experiences so that to an ever-greater degree the craftsman and the technician must reach higher levels of skill development and related technical understandings. And all of this is part of the total matrix needed to meet man's physical, spiritual and cultural needs.

With increasing frequency, statements of purpose of the schools in this land include vocational competence as an integral and inseparable function of education. Such pronouncements state further that genuine vocational education, which prepares youth with talent and desire for maximum achievement in an occupation, is the birthright of America's children.

Industrial education and, specifically, vocational-industrial-technical education with its objectives of preparation for life and for entrance into and progress in the skilled trades and technical occupations is primarily a program for average and gifted youth and adults and not one for "salvaging academic casualties." However, this does not remove the responsibility of all educators, the lay public, and other groups and agencies, from using their imagination and experiences to conceive new educational and training programs for the problem child, the less gifted and those whose lot in life is characterized by social deprivation.

We should also be cognizant of the fact that vocational education is strong because of its unity and its diversity for there is no single track, service, program or group. Built on a sound foundation of well-developed concepts, flexibility, and freedom to exercise imagination, the total program maintains sufficient fluidity to meet quickly technological and other advances.

### Vista I—The Larger Administrative Unit and Area Vocational Programs

In true perspective, vocational educators have the leadership responsibility of identifying and recommending administrative units large enough to bring about equal educational opportunity for all who are interested and may profit from vocational education. More and more state planning, based on total occupational, population and educational surveys and comprehensive all-inclusive studies of curriculum, facilities and financing will be the basis for determination of the most satisfactory programs to serve entire states. With such effort, there willl be economy of material resources, conservation of precious manpower in youth and adults, and operating efficiency.

Since no program of vocational education is valid unless there is sufficient opportunity for boys and girls to select an occupation, area vocational programs will provide no less than four trade and two technical curriculums, preceded by adequate exploratory experiences. There will also be student selection. After careful planning, the total vocational program provided on an area basis may be restricted to curriculums in vocational-industrial-technical education, business and distributive education, home economics, agriculture, or a combination of any or all of these vocational education services.

The program may be conducted in a single facility serving an enlarged area, or according to a decentralized plan wherein the specialization is given in separate schools in an area, or in any variation of such programs.

# ...nd Technical Education

Dr. C. Thomas Olivo
State Education Department
Albany, N.Y.

State supervisory staffs will play an increasingly important part in the promotion and planning. Their ingenuity will be taxed to prevent duplication of good existing programs and limiting those that are too highly and narrowly specialized. Due recognition will be made for the needs of adults regardless of residence so that all within an enlarged geographic area will be served.

The area vocational concept has been accepted in some states through the establishment of programs and schools, but the surface of need remains barely scratched throughout this country. And when these programs are evaluated against the characteristics of evolving industrial education programs as will be presently identified, an even greater amount of planning and implementation is needed.

### Vista 2—Industrial-Technical Teacher Education Programs

The experience requirements, selection, training and education of teachers, supervisors and administrators in industrial education will become more exacting and rigorous.

Greater attention will be paid to secure craftsmen and technicians with greater trade competency, validated by well-developed trade proficiency testing instruments. Basic educational levels and educational background requirements will rise. And with leadership so essential, younger trade and industrial personnel will be recruited. Greater dependence will also be placed in teacher selection on personality factors essential for teaching success.

In technical education there will be resolved by valid studies those competencies necessary for teaching in this field . . . the occupational, educational and teacher education requirements. For teaching in some of the technical curriculums, the skilled craftsman with exceptional understandings in the related technical subjects and technology may by background and training represent the best teacher potential.

Experiences may soon prove that teachers of trade shop subjects (with additional college level content courses in mathematics, science, drawing, art and design; and other specialized professional courses) or teachers of industrial arts subjects or the technical institute graduate (in addition to the engineer) may become the best potential teachers of related trade or related technical subjects.

What of the industrial teacher education programs . . . do they make adequate provision for developing teaching competencies essential for trade, technical or related technical subjects? One fact too often overlooked by industrial educators is that the teacher educator is the key to program interpretation, development and expansion. Unless teacher educators of clear vision and understanding develop within the neophyte true concepts of industrial education, they may stifle and retard progress.

Turn for a moment now to those who will serve as supervisors and administrators on local, state or national levels. Beyond preparation as a master teacher, they will need advanced preparation in five major areas:

- Knowledge and comprehension of administrative/supervisory principles and practices in general education;
- Knowledge and comprehension of administrative/supervisory principles and practices which have been identified through job title studies as essential for success of vocational education;
- Guided and supervised internship experiences in supervision/administration of vocational education;
- Additional advanced educational course experiences, including tests and measurements; and
- Such social and psychological foundations as may be needed to critically assess a program of vocational education in terms of current world issues.

### Vista 3—Facilities and Instructional Excellence

The skills demanded of craftsmen and technicians will become more diverse. More related trade and technical subjects will need to be mastered. The amount of trade theory to be covered will increase in breadth and depth. Under such conditions, different demands will be placed upon facilities and equipment with greater flexibility needed to be built into the physical plant.

There will be a greater variety and range of sizes for equipment, tools and instruments in order to give a perspective on range. This contrasts with the present tendency to teach limited numbers of skills on relatively few machines. The equipment in the shop and laboratory of the future will be selected in order that basic skills in the early years will be mastered for a family of trades. These experiences will culminate in the final year of specialization for a cluster of job opportunities in a single trade family.

The instructional program will become more effective as greater utilization is made of audiovisual aids and devices produced on a production basis, thus leaving more teaching time for the instructor. Teacher aides and less

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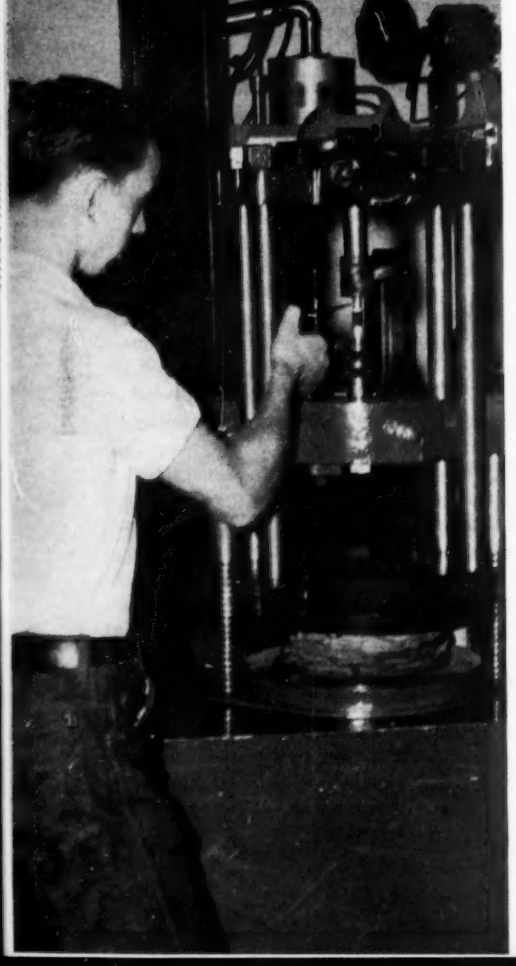
T&I

# TECHNICIAN
# Man of The Future



WHEN THE Erie Canal was driven through Central New York, brute labor was the key in manpower. It always had been. Until 1890, the manual laborer was the man who made production possible.

By 1925 the picture had changed. The Model "T" and the machinery revolutionizing the world were being constructed and maintained by skilled craftsmen, who in our own time, have become the most potent force for progress — and the principal manpower component.

Now, in the Sixties, the technician is the man of the future. It is technicians who will build and run the world of the future. Fewer and fewer will be needed of lesser-skilled personnel, as our experience already is proving.

What *is* a technician? He is the assistant to the engineer or the scientist. He stands between the skilled craftsman and the engineer in training, skill, and responsibility. He must have a solid background in mathematics and science. He must appreciate the basic principles—the "why" of his field—and he must be able to apply them, too.

This changing environment — the coming into importance of the technician—10 years ago caused the development of the technical-industrial education program at Smith Technical High School, Syracuse, N. Y. In 1946, Smith Tech was established to retrain homecoming veterans for Greater Syracuse Industry. In 1950, technical high school programs were started there on a very modest scale. This was an exploratory, pilot program for Syracuse. It consisted of two different types of courses:

**Dr. Edward H. Lang**
**Central Technical High School**
**Syracuse, N.Y.**

**Technical Majors,** mechanical and electrical, to prepare boys for full-fledged technician jobs on graduation and for entry into engineering college and

**Industrial Majors** to prepare boys to become skilled craftsmen for industry.

The graduate records of these boys have been kept up each year. By their measurement, the program has been an outstanding success. Discounting only those who entered the armed forces, nine out of ten have entered either college or jobs directly related to their training at Smith Tech. This has held true every year, and quite uniformly through all the curriculums.

From the technical high school majors, 55 per cent have gone on to engineering college, enrolling in 26 different colleges. Many have returned to Syracuse to enter employment.

Central Tech came into being based on the Smith Tech experience and with the advice and support of literally thousands of people. It was started in 1953.

Fourteen committees, each representing the leaders in a major employment field, were established to give educators counsel in curriculum, facilities, and other matters. More than a thousand Greater Syracuse area citizens were directly concerned with the technical education program.

The program at Central Tech requires that the student complete all general high school required subjects such as English, citizenship, mathematics, and science. When he graduates, he is entitled to the same diploma given for all other Syracuse High Schools.

But there is much more. For instance, in Technical Mechanical, 800 clock hours in drafting, plus 600 in machine shop.

In Technical Electrical, 1800 hours in electrical theory and laboratory.

In Technical Chemical, 10th Grade Regents Chemestry plus four more full units of chemistry.

By comparison Central Tech students complete 21 to 22 credits in high school to the 16 required of students in a "general" high school.

This, then, is a challenging program. There are no study periods. Eight full periods a day are spent in class. Homework is done at home. Technical students qualify themselves for two diplomas — the Syracuse High School Diploma plus the coveted State Regents Diploma in Technical Subjects.

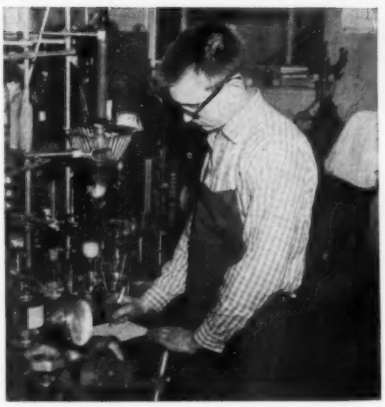
Industrial majors prepare themselves for industry and for living by adding 1800 hours of actual shop work over a three-year period to class work in regular high school subjects. Their industrial instructors are men with experience in industry, engineering education and experience.

In the new Central Technical High School, opportunities have been added for girls, not only in the industrial and skill curriculums, but in the technical majors as well. For instance, 12 girls have qualified this year to enter technical chemistry. They'll make up a third of the chemistry major student body.

The response of students, parents, and teachers has been enthusiastic. It already is apparent that this new high school program is really important to our community.

More than 600 eighth and ninth graders have voluntarily taken written examinations for entrance. For the sake of their education, and because specialized faculty and facilities and expensive equipment are all required, admission must be held to those who by their earlier record and their examination show they can profit most from this schooling.

The problem now is to find out what additional needs must be met in providing technically educated young people for our area. This is important to students, to industry, and to our growing economy. These technicians are perhaps our most potent resource which we can create.

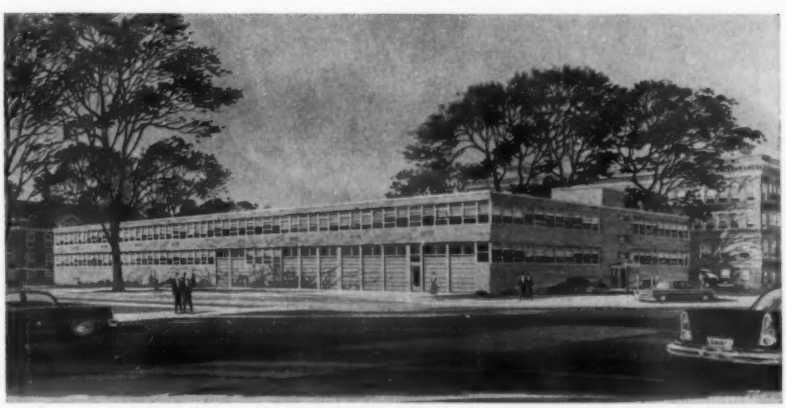


At the moment, we do not doubt that a need for technicians exists. It is only a matter of finding how many and what kinds will be needed. Then finding a way to provide appropriate education becomes paramount.

How can such education be accomplished? At present, we are looking toward an extension of our present high school program to a 13th and 14th year of technical education. This program would be for students from the entire metropolitan area.

In proceeding thus far, we have not come alone as educators. We have had assistance from industrial mangement through a survey policy council. And we have an active advisory committee representing no less than 43 different groups, organizations, and users of technicians. They speak for just about every type of Syracuse endeavor.

The details — planning of curriculums and the like — come later. This is the third comprehensive step toward solving a pressing problem facing our industry, our youth, and INDEED our whole community.



**The new Technical Wing of Smith Technical High School, Syracuse, N. Y. It was opened in September 1959.**

T&I

# Automotive Trades Taught Texas-wide

By Joe L. Reed

As RECENTLY as a week ago Texans were known to brag. Some of their claims bordered on the fantastic, while many were merely incredible. Frequently, however, there was a kernel of fact beneath the verbal embroidery of Lone Starophiles.

But it is the plain unvarnished truth that at least one Texas institution has a division which can honestly state that its campus measures roughly 800 by 700 miles. It is also true that a single department within that division uses several tons of teaching aids to accomplish its duties. Finally, it is definitely a fact that only by the application of certain principles has the department been able to meet the demands of the age of technology.

The institution is the University of Texas, whose Division of Extension has as its motto, "The State of Texas Is Our Campus". Pursuing this objective, the Division has served all but one of Texas' 254 counties.

One of the departments in the Division is the Industrial Education Department. Last year its eleven itinerant instructors compiled a total of well over 85,000 miles to meet classes in the state from New Mexico to Louisiana and from Mexico to Oklahoma.

The demands for the services of the Industrial Education Department result from its policy of meeting specific needs. Special advisory committees from industry are used extensively to determine what subjects should be offered, what the course content should be, the general schedule for each instructor and course, ways of encouraging students to enroll, and other factors that contribute to successful training.

The department offers training in school building maintenance, supervisory and human relations subjects, and automotive training, but it is in the latter program that the importance of cooperation with industry is best demonstrated.

As the result of its cooperation with representatives of the automotive industry, the department has had to double the size of its automotive training program in three years. In 1956 it had three automotive instructors. Today it has six. In fiscal 1958-50 the six instructors served more than 2,200 students.

From the start of the program, these principles have been followed in providing automotive trade extension training.

1) *All instructors are vocationally qualified, with experience in the particular subjects which they teach.* For example, the department's instructors in automatic transmissions were successful specialists in that field before being employed by the department. The carburetion specialists and automotive electricity instructor were also experienced technicians, and the man who will teach a newly instituted brake course has had 17 years experience as a mechanic. Previous experience is supplemented by factory training whenever possible. In the past three years, all instructors in automotive training have attended factory schools.

2) *The instructors receive special training which qualifies them to teach.* Before he begins teaching, each new instructor is given personal training from one of the department's two teacher-trainers. When he first goes on

Please turn to page 2

Teachers work closely with students in small classes. The small groups make instruction more effective. Instructor A. D. Morris, right, is showing students how the governor valve on a Powerflite transmission operates. Looking on are C. M. Allen of the Texas Education Agency and G. C. Morris of the Automotive Wholesalers of Texas.

# New Mexico's Nursing Course Boon Without Parallel

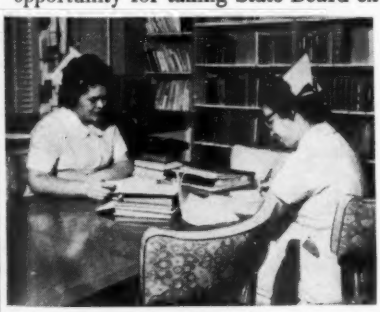
**By Marian Thomas**

VOCATIONAL education in the field of practical nursing has proved a boon without parallel to women of New Mexico since the state's first School of Practical Nursing was established at St. Vincent Hospital in Santa Fe in 1949.

The 1960 class, in which 28 students were enrolled, illustrates the opportunity offered to women of all ages, races, and creeds to work together toward a common goal: a career as a licensed practical nurse. Class members represented Spanish, Anglo, Indian, and Negro heritages.

St. Vincent Hospital, where they are studying, has the distinction of being the first hospital in New Mexico, and of having the first nationally accredited School of Practical Nursing in the state. Since 1957, the Division of Vocational Education, New Mexico Department of Education, has contributed financial support to the school with Public Law 911 funds.

The success of the school's training program has been a matter of record in recent years. Each graduate has the opportunity for taking State Board ex-



aminations to be licensed as a practical nurse following the one year of training. No graduate who has taken the examinations in the last three years has failed to pass, and their grades have far surpassed the necessary passing average. Their services thereafter are in high demand in hospitals, doctors'

offices, and in private practice.

Men are not excluded from enrollment, and men have completed the course at St. Vincent successfully. It was to girls and women, however, that this development in vocational education proved most important. There were few if any fields open to them in the past where a year's training could mean a self-supporting career for life. Practical nursing has filled the void.

Members of the 1960 class provide excellent examples of who chooses practical nursing as a career.

There is Mrs. A., 44 years old, and a widow who gave birth to 17 children, 12 of whom are still living. She has three married daughters and nine other children at home. Practical nurse training will give her a means to support her family.

Miss B. is a 21-year-old Negro girl. She graduated from high school in her native State of Tennessee. She had always wanted to be a nurse.

Miss C. is a 19-year-old Indian girl of the Hopi-Tewa tribe. She was graduated from Ganado Mission high school in Arizona in 1959.

An ambition to work as a practical nurse in the newly constructed U.S. Public Health Hospital in Gallup inspires Miss D. to her studies. She is 21 years old, a Navajo Indian, plans to return to Gallup to serve her people in hospital work.

Fifty-one years old, a woman who came to New Mexico via Colorado from Michigan is Mrs. E. She finished the tenth grade in Michigan. She moved West because of her husband's health.

Miss F. is a Navajo Indian girl who was adopted 10 years ago by a French family now living in Santa Fe. This 21-year-old student attended Santa Fe high school but was referred to the New Mexico School for the Deaf when she was graduated from the 12th grade in 1960, because of a hearing defect.

This cross-section of the personalities in this class at St. Vincent Hospital points to the importance of the program in an area where there are few

vocational education opportunities. Statistical data on the present class also shows that only two students have had some college work; the educational background of the others is from the eighth through 12th grade. The group ranges from 19 to 51 years of age.

Mrs. Nelda Hogan, director, and Miss Connie Hesch, clinical instructor,

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T&I

# Technical Education for Teachers

**Maurice W. Roney**

**School of Industrial Education**
**Oklahoma State University**
**Stillwater**

ONE OF THE most rapidly growing units of our educational system is that of technical education. The increasing complexities of industrial development and production have created new requirements for technical personnel much more rapidly than our educational system has been able to adjust to meet these needs.

Educational programs for technical occupations may take several forms within the next few years. No one could predict with any degree of authority from where the leadership that is always necessary for an educational area of this magnitude will come. During the years preceding the National Defense Education Act of 1958 technical institutes throughout this country and Canada established a pattern of college level educational services designed to prepare engineering technicians. These institutions by virtue of their established reputation and the professional leadership that has strengthened and supported them will undoubtedly continue to represent technical education of high quality.

It is significant also that an increasing number of engineering colleges are developing new on-campus programs in those fields of technology closely related to professional engineering. In all probability these institutions will develop services patterned after E.C.P.D. accredited technical institute programs now offered at several state universities throughout the country.

A very great range of post-high school technical programs are also developing within the framework of the several state vocational education services. The impact of federal support cannot fail to have a substantial effect in the development of this area of education. Just what institutional forms will emerge as consistent patterns within this administrative organization remains to be seen. The generic term used to describe the graduate of these programs is the highly skilled technician.

There are powerful elements of influence within each of the professional groups that are concerned with post-high school technical education. To the extent that these influences are used to improve educational services they will be positive and productive.

## Universal Needs

Whatever evolves in terminology and in areas of administrative control the strength of all post-high school technical education will be drawn, in the future as it has in the past, from the quality of instructional personnel. There is little to be gained by belaboring the controversial issues of administrative control and extolling the virtues of individual programs unless positive conclusions are drawn and realistic steps taken to provide adequate instructional personnel. Dedicated enthusiastic teachers need only support and encouragement to develop good programs. No truly professional educator will quarrel with good educational services wherever they may be found.

## Sources

Successful technical institutes have, in the main, relied upon graduate engineers to staff instructional programs in the past. It is a non-sequitur that this represents the only, or necessarily the best, source of teachers for the future. As a matter of fact, the modern engineering curriculum does not provide a satisfactory background for a technical teacher. Regardless of his educational qualifications the technical teacher must have industrial experi-

ence to function effectively. It is unrealistic to expect that qualified engineers with the necessary industrial experience and the personal characteristics requisite for good teaching will be available in anything like the numbers that will be needed during the next few years. What then are the alternatives? There is general agreement that the numerical needs for technical personnel in the industrial complex of the future will increase rapidly. Educational facilities of some sort will, of necessity, be developed to supply the need. Where will the teachers to staff these facilities be found?

### Requirements

The organization of curriculum and course content in a truly technical program is distinctive. It is also clearly identifiable. There are many aspects of this instruction that distinguish it from the academically oriented approach commonly found in engineering colleges. It is almost totally unlike the "do and know" pattern so familiar to the teacher of trade and crafts.

Similarly, the basic requirements for an effective teacher of technical subject matter can be identified. The Teacher Training and Recruitment Committee of the Technical Institute Division of the American Society for Engineering Education has delineated these requirements for a qualified teacher of engineering technology.*

Technical Competence
Industrial Competence
Pedagogy

There is, of course, nothing new in these classifications. It is important that relative weight be given to each of these attributes. What is reasonable as to standards of technical ability; minimum requirement for industrial experience; optimum professional education? These questions—largely unanswered in terms of general agreement—are being asked by those who are most concerned—school administrators interested in new programs of technical education.

### Resources

Instructional personnel will be drawn from several sources during the next few years. Experienced engineers and technicians will fill some of the classroom and laboratory positions particularly in evening schools. Evening extension courses have usually been able to attract competent teachers. The acute problems in teacher recruitment have always been, and will continue to be, in full time day programs. It is for these programs that the fully qualified professional teacher is most needed. He must organize, plan, prepare and teach. He quite often needs to be a promoter, an industrial contact man, a publicity man, a recruiter and placement officer especially in the development of new programs. Where broad requirements of this nature are to be met the supply of qualified persons will be limited. Technical knowledge alone will not be sufficient.

* *Technical Education News*, Vol. XIX, No. 1, Special Issue 1959.

## The Project

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plicated production requirements of industry can meet our comparatively simple operational needs.

Would an industrial design organization actually undertake the job of providing us the services described above? Probably not, from the profit motive alone. But there are definite indications that industrial designers would be willing to help for other reasons, such as, genuine altruism — a desire to perform a public service; the development of good-will for their organization; and, the opportunity to broaden designers' backgrounds while at the same time providing for slack-season employment of the staff.

Don't sell the public service motive short. Many industrial designers have freely contributed their time to help individual schools. A case-in-point is the help given to the University of Georgia by Charles Eames and George Nelson. The time, materials, and effort contributed by these two top designers were of such magnitude that they could never have been purchased by a non-profit organization.

A key point of the proposal is that action should be initiated by the top level of our profession, and that the contacts be made with an organization representing the most competent professional designers in the country. In a sense it is an acknowledgment of the fact that the problem of design in industrial arts is so large—and important—that it should be attacked at the top level on a grand scale.

Key questions regarding this proposal are . . . Are we professionally alert and resolute enough to recognize our need to overcome inertia and implement this, or a similar, proposal? Can we avoid getting mixed in the muck of the procrastinators' questions, questions such as: "Interesting, but isn't it too grandiose?"; "Shouldn't we give this careful consideration—say 20 years worth?"; "Let's not get excited, after all we aren't supposed to be designers, are we?"; or worse yet, "I agree, but what else is new?".

Perhaps the proposal will not work. Certainly there is no guarantee that it will. More important, however, is the positive view that very possibly it *will* work—and if it does work we will be a revitalized profession.

## New Mexico

From Page 21

head the faculty of the school, working closely with the hospital administrator, Sister Mary Joachim, and the director of nursing service, Sister Jean Angela. The school has the support of an active civic advisory council which meets quarterly and concentrates its activities on student recruitment and scholarships.

St. Vincent Hospital has emphasized principles and procedures of bedside nursing in the community and hospital in the one-year course of study and nursing practice. Subject matter includes: Nursing Principles and Procedures; Body Structure and Function; Community and Personal Health; Personal and Vocational Relationships; Nutrition and Diet Therapy; Conditions of Illness; Mother and Infant Care; Surgical and Medical Nursing; Pediatric Nursing; Common Drugs and Solutions; First Aid; Civil Defense Nursing.

The first 17 weeks are spent principally in the classroom with selected assignments to floor duty to practice knowledge acquired. Following this preliminary instruction period, students are assigned to patients under supervised practice. All work with patients is under supervision of a registered nurse. No less than four hours per week of conference, round-table discussion, and classroom instruction continue throughout the entire course to correlate practice with knowledge.

State accredited and accredited by the National Association for Practical Nurse Education, St. Vincent Hospital School of Practical Nursing is fulfilling a prime requisite in vocational education—to provide opportunities for careers based on the finest training in the field of practical nursing.

## How and Where To Find the Peace Corps

The Peace Corps is a reality. It was established, as a pilot project, by executive order of the President. The Administration has requested Congress Congress to make it a permanent agency.

Headed by R. Sargent Shriver, Jr., the Peace Corps is located in Suite 617, 806 Connecticut Avenue. Inquiries, however, should be addressed to

PEACE CORPS
Washington 25, D. C.
Application-Information
Request

Currently, the Peace Corp staff is acknowledging applications, with the promise that application forms will be mailed out within the next few weeks. Applicants will also receive a brochure designed to answer their questions.

Concentration of recruitment will be in the field of education, public health and agriculture.

## Vistas

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highly skilled persons will be used for non-teaching assignments. Mass media electronic devices will be used at student stations because research will have established the fact that such teaching-learning experiences are effective. The availability of more teacher-student resource materials will increase teaching efficiency, making it possible to cover more ground in less time.

The instructional program will be characterized by provisions made to include more planned learning sequences in the trades and industries. It will be possible, after basic instruction in a full-time day program, to provide instructional continuity throughout man's adult life span. This will require planned, purposeful changing sequences with new learning experiences (skills, technical and related technical subjects) so that craftsmen and technicians may constantly be kept at their highest potential productive level.

### Vista 4—Trade, Industrial and Technical Curricula

Although there is no saturation point in man's ability to think and learn, it is foolhardy to believe that with increasing technology the amount of general education and specialized education essential for social competence and occupational success may be mastered in less and less time. To the contrary. Even with student selection, a full six

hours of instruction per day up through the secondary level and a full eight hour day for post-secondary programs will be necessary.

When due recognition is made (following much critical refinement and development) of the contributions the specialized trade shopwork, laboratory and related subjects make to the full development of each individual, it is possible (with increased instructional effectiveness and with selected students) by giving due academic credit for these educational experiences to carry out the two-fold objective of preparation (1) for entrance into the trades and industries and (2) for college.

Without question, the secondary school of the future will encompass the 13th year. A foundational general education program will be required of all students through the 10th year. With student retention higher, and the tumult for relaxed school leaving age disproved by experience, the tendency will be to delay industrial education until the 11th to 13th years. While there will be a greater number of skills needed, stress will be placed on the related subjects and the trade theory required for occupational competence.

The 13th year will be programmed to more nearly assimilate industrial conditions than at any other period of time. At this level the trade theory and related subjects will be assimilated with skill development as a technology.

The industrial-cooperative work experience program will also fit the pattern as a final culminating experience in the 13th year. This means that a two-year trade and industrial preparatory program will have been completed before assignment "on-the-job." These programs will also provide a much-needed practical approach for schools to undertake experimental and new programs whenever they encounter difficulties with facilities or equipment.

### Summary

I have presented some philosophical thoughts about technology as a potent force helping to shape man's destiny and that as the matrix of our occupational world changes those in industrial education share the responsibility to prepare youth and adults to meet these changing conditions.

I have tried to extract out of this total world configuration four major outposts which will challenge all in industrial education. Broadly classified these outposts include:

- The larger administrative unit and area vocational programs,
- Changing concepts in industrial and technical teacher education curricula,
- Facilities and instructional excellence,
- Emerging industrial education curricula.

### The Challenge Ahead

The admonition and challenge that lies ahead is for those in trade, industrial and technical education to raise their sights and to get such a vision that we may break through traditionalism to lay out new vistas.

The boundaries to which industrial education may extend to meet the numberless challenges and needs of the next age, are only circumscribed by the forces we may exert to harness human experiences, human initiative, imagination and daring.

**The first recipient of the Florida DECA Outstanding Service Award is John B. Pope, "The Father of National DECA." Mr. Pope is shown here receiving a plaque from Rex C. Toothman, Florida State Supervisor of DECA. Mr. Pope became the first state supervisor of distributive education in Texas in 1937. In 1938 he became the first program specialist for DE in the U. S. Office. Through his encouragement of the club program, Distributive Education Clubs of America was founded in 1948. Mr. Pope retired from the USOE in 1957.**


## REPRINTS

**Due to demand for extra copies of the March Journal, which featured the section entitled "New Era for Vocational Agriculture", we have had printed several hundred reprints of that section. Reprints will be 16 pages, saddle stitched. The minimum order we can accept is for 50 copies. Price of the reprint is 20 cents regardless of the size of the order. Orders for less than 50 copies will be filled from our inventory of the magazine itself. Price of each whole magazine is 35 cents.**

## FEBRUARY JOURNAL

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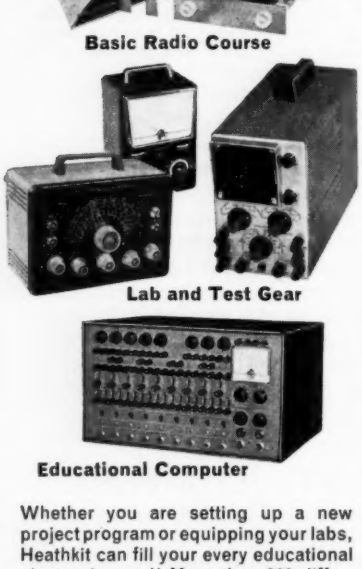

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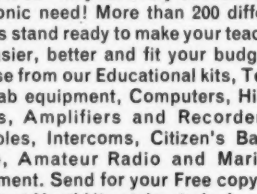

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# from the Public Information Committee

**Getting and Using the Brochures of the Committee on Public Education.** We are still having difficulty in getting word to everyone regarding the publications of the Committee on Public Information and the terms on which they are available.

There are five brochures, averaging about 12 pages:

- *Occupational Distribution in Relation to Educational Planning*
- *New Developments in Trade and Industrial Education*
- *Distributive Education*
- *Vocational Education: Gateway to Opportunity*
- *The Case for Agricultural Education in the Public Schools*

Individual copies may be had by writing Lowell A. Burkett, American Vocational Association, 1010 Vermont Avenue, N. W., Washington 5, D. C. Additional copies for distribution to school board members, legislators, school administrators, officers of organizations, and others influential in the decisions that are made regarding vocational and practical arts education are available to members of the A.V.A. who will indicate definitely the uses they intend to make of them, provided they are to be used as intended. Multiple copies to be used for purposes other than those preferred by the Committee, may be purchased at cost.

The supply of these publications is getting low, but they can be reprinted, using a part of the grant for 1961 of $4,000 from the Sears-Roebuck Foundation.

**Revived Public Interest in Vocational Education.** Observations from many parts of the country indicate that the tide has turned. The public is again becoming aware of the need for practical arts, vocational, and technical education, so much neglected in recent years, when attention was directed toward shoring up education in mathematics, science, and foreign languages.

Straws in the wind: President Kennedy's firm support of vocational education—the advisory body for vocational education that Secretary Ribicoff is forming, which could be comparable to President Wilson's Commission on Vocational Education of 1914—provisions in the Douglass bill for occupational retraining in depressed areas—the development of area programs of vocational-technical education in several states—the new vitality of home economics in the junior high schools across the country and of agriculture in the junior high schools in California—a 60 per cent increase in general school funds from the state in one year in Kentucky, which has eased the financing of vocational education—an increase of 25 per cent in state funds for vocational education for Illinois recommended unanimously by the School Problems Commission (which four years ago wanted all special state funds eliminated).

Fresh, new ideas for developing vocational education are capturing the public imagination. In nine recent two-day conferences of businessmen, industrialists, school board members, school administrators, and others in Illinois, almost unanimous support has been secured for the most bold and comprehensive plan for developing vocational education that has been put forward in any state.

Obviously, this is the time to push programs of public information with assurance that they can be effective. We are in an era quite different from the dark days of 1958, when the AVA Committee on Public Information was conceived. The most productive period for expanding and improving vocational education is just ahead of us. Every state, every community, and every service within vocational education that is not organized to take advantage of it should organize immediately.

> "There is a tide in the affairs of men
> which, taken at the flood, leads on
> to conquest.
> Omitted, all the voyage of the lives
> is bound in shallows and in
> miseries.
> On such a full tide are we now afloat
> and we must take the current when
> it serves, or lose the venture."

## Automotive

From Page 20

the road the itinerant has his classes visited by a teacher-trainer to be certain he is using correct teaching methods and teaching aids. In addition, each December the automotive instructors attend a special two-week workshop on teaching. After completing three workshops (about 255 hours of instruction) a man is qualified to receive a permanent state certificate to teach vocational subjects.

3) *Courses are planned with the help of advise from special committees that include representatives of the industry concerned.* Every course in automotive training offered by the department has its own advisory committee, and all of these advisory committees are in turn combined to make the overall State Advisory Committee on Automotive Training. This latter group considers the general program, and recommends areas where training is needed. On November 6 the State Advisory Committee on Automotive Training pointed out the need for hydraulic and power brake training. A committee is being formed to make recommendations for a brake course. A typical committee in the program includes service shop owners, factory representatives, jobbers, and department representatives.

4) *Courses are regularly re-organized to include new information or to meet new demands.* For several years the department has offered two courses in automatic transmissions, but demand for training in the older types of transmissions has lessened recently. To meet this change, the department revised its automatic transmissions program to include only one course, which will just cover the later models.

5) *Full advantage is taken of teaching* aids and training publications *made available by manufacturers.* Each student in a 12-hour unit (one week) in Holley carburetors receives seven books. The instructor in this course uses five sets of flip charts and a color film strip, all supplied by the manufacturer. He also carries a large pad and tripod for quick sketching.

6) *Students are given a chance to work on the actual types of units which they will service.* This principle accounts for many of the ton-miles which itinerant instructors compile each year. In the automatic transmissions courses specially designed trailors are used to transport about 6,000 pounds of equipment for each instructor. Twenty transmissions (four of each of five types), seven tables, all special tools, and a compressor make up the equipment of a transmission instructor, who also transports about 450 books to be given to students. Although the units are smaller, carburetor instructors also have their hands—or, more accurately, their cars—full transporting equipment from place to place. In the Holley course each student works with four different carburetors, and it is necessary to haul 32 carburetors just for students, plus 21 for the instructor to use in teaching.

7) *State-wide associations, factory representatives, and local sponsors help encourage mechanics to enroll in the courses.* Every time a course is presented it has one or more local industry sponsors. The sponsors arrange for meeting space, obtain newspaper coverage, contact possible students, and often provide refreshments. At the conclusion of a course the sponsors may arrange for a special ceremony to present completion certificates. The certificate presentation is frequently made by a local community leader or by a member of the state legislature. This serves a double purpose: it gives the group impressive recognition and it provides the speaker with a chance to observe the excellent reception usually given a course by the students.

A sound program well received. That's what we wanted in Texas. And it's not Texas-style bragging to say that that's just what we have. Last year, our six instructors held 155 classes in 89 centers and instructed 2,229 students in automotive mechanics.

Not a bad record — even for the second largest state!

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A considerable increase in power and capacity, with no increase in price over the previous model, plus a hollow arbor mist coolant and an exclusive retractable size guage are features of a new "swinging arbor" 12-inch cut-off machine developed by Rockwell Manufacturing Company's Delta Power Tool Division.

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Delta says its new cut-off unit, with its 12-inch blade, will also cut all bar stock and angles usually used in plant maintenance work.


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This revealing treatise on American agriculture is one of the most concise and complete survey-forecasts published in recent years. Mr. Mehren's grasp of the agricultural scene, past, present, and particularly future, is greatly to be admired. While neither vocational nor educational organically, this article will have direct and immediate value to people at all levels of vocational agriculture education. For those far removed from agriculture, this article should hold deep interest, whether they be taxpayers and consumers, stockbrokers or administrators, men or women or future wage earners.

George L. Mehren is an agricultural economist with the Giannini Foundation of Agricultural Economics at the University of California. This article was taken from his address at the Los Angeles Convention in December, 1960. It was originally entitled "The Farm Management Problem in Agriculture in the 1960's."

## Today, Tomorrow, and 1975

# *Agriculture: A hard look*

**By George L. Mehren**

ALMOST exactly one hundred years ago, President Lincoln signed the Morrill Act. This was the beginning of our great system of land-grant universities. It also marked the beginning of the agricultural experiment stations. For the first time, research, education, and service were formally integrated into a system of state universities covering virtually the entire nation. As time went on, the other aspects of agricultural education were recognized. Thus, at long last, a system of research, of teaching, of public and farm service, and of vocational activity has come to maturity. The great increases in the efficiency of the American plant are, in a large measure, attributable to this system of public education.

As things stand now, foods and fibers are relatively cheap. Labor has been released from agriculture to increase the output of the American economy in other industries. The major orientation during the first century of agricultural education was to increase technical efficiency of production. This is still an important goal, but clearly it no longer is a single one.

During the past century there have been great increases in national population. In the early years of the century, increases in agricultural efficiency generally led to increases in agricultural income. Yet, over the forty years just finished, agricultural output has, in general, increased faster than demand for farm products. Consequently, there has been a decrease in relative prices of farm and nonfarm goods, a relative disparity of farm and nonfarm incomes, and, over the long run, great instability in farm income. During the past decade, there has been a sharp and real squeeze in farm income.

It is often difficult for farm people to understand that increases in technical efficiency of production can and often do lead to lowered incomes unless there is associated change in the allocation of farm resources. Because increased output—in the face of low demand and income elasticity—often leads to lower income, there has, in fact, been pressure for decreasing the research funds of agriculture and perhaps to curtail the program of vocational education as well. To do this would almost surely affect adversely the economic growth of the United States and ultimately would damage our competitive position in the world. Thus, it becomes clear that education, research, and vocational training in agriculture must continuously be aimed at an increase in efficiency, but simultaneously they

**Please turn to page 30**

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must be directed toward the improvement of agricultural income.

This is the background within which the development of vocational and other types of agricultural education must be considered over the next few years.

## The Definition of Change

If the major objective here at issue be the orientation of agricultural education, research, and service to the needs of the agricultural population and in consistency with the national needs, then change must be defined in terms of those attributes directly and causally related to agricultural education.

First, the major emphasis in agricultural education—rightly or wrongly—has been on the technological or production side. This, of course, must remain true, although the relationship of technological change to earned farm income should henceforth be stressed.

Second, to a rapidly increasing extent, farmers are paying cash for the resources used in the production process itself. Accordingly, the second area in terms of which change must be measured involves the resources purchased by farmers from nonfarm origins and the uses made of them in the production processes. These two sets of data taken together give the information neccessary to project the cost of production and farming.

Then, and perhaps of greater importance than the technology or the factor markets, the demand for farm products must also be projected. This includes both domestic and foreign demands.

These three aspects of farm operation involve the activities of the farm enterprises themselves. Yet, to an increasing extent, the farmers of America are entering nonfarm markets to buy the resources they use in the production process, to sell their own products, and to acquire capital. Thus, the market structure in those three markets—the organization, the size, and the policies of the firms who serve as suppliers and customers of agriculture—must also be projected into the future. Finally, there is one other limit upon the activities of the individual farm enterprise which cannot be ignored. Perhaps more than for any other industry, the governments of the states and the nation can intervene to support, to control, to regulate, or to facilitate agricultural activity. These massive programs have direct impact upon individual farm activity, both as requirements for farm operation and as inducements as well. Thus, to look ahead through the 60's must necessarily require some assumptions with respect to governmental activity in the agricultural industries.

## Agriculture in the Past Decade

There have been two major problems in American agriculture over the past half century.

*First,* over the long run, farm incomes as compared to those in other sectors of the American economy have been relatively low, unstable, and skewed. There have been and still are extremely broad differences with respect to commodity groups and regions. Accordingly, it must be understood at the outset that *agriculture is a very general word* and that many different types of areas, enterprises, and commodity groups are included within it. The definitions of the types of enterprises included within agriculture serve further to distort the income picture if all farms are included within the agricultural classification. Yet, it is true that even for the large and more commercial enterprises there has been a pronounced and drastic squeeze of cost and income during the past decade.

There has been this same type of adjustment trend over the long run of the full last half century, often masked by war or depression. There has been a low level of demand elasticity and a low level of income elasticity leading to a secular income distress situation in the face of huge and continuous increases in general productivity in the American economy. Low demand elasticity means that, with no changes in any other determinant of price, a small percentage increase in output leads to a much larger decline in price and therefore to a decline in income. Low income elasticity means that, with no change in any other determinant of price, a large percentage increase in per-capita purchasing power results in only a small percentage increase in the price of a given amount of farm products. These characteristics are general to the markets for food in all countries and will remain so in the United States.

A *second* related issue has been the immense technological change in scale and method of farm production, including farm management and organization, again extending back over several decades. There has been an immense increase in capital invested in American agriculture. Machinery, power, and other inputs have systematically been substituted for human labor. In a little more than a quarter of a century, farm output was increased by some 50 per cent, and over those same years, the input of labor used in the production process declined about 50 per cent.

While there has been a substantial increase in capitalization, leading to a per-worker capitalization some two and one-half times greater than the national average, the exodus of people has not been sufficient in some parts of the agricultural economy either to equalize or to stabilize farm incomes as compared to those in other sectors. It is doubtful that some government programs have contributed affirmatively to this basic problem of adjustment to technical change.

Agriculture, at the moment, is declining sharply as a proportion of the total national economy. At present, farm income is only about four per cent. Within fifteen years it is likely that farm income will be no more than two per cent of the national product. Yet, American agriculture is still an immense sector of the United States economy. It has not declined absolutely, nor will it do so. Farmers are major users of capital. There have been drastic changes in farm organization, in technology of production, and in marketing. There are obvious resource misallocations, especially in grains and fibers. There is sharp and continued distress. Yet, much of the distress is localized by areas and commodities.

Generally, despite its decline as a proportion of the economy, American agriculture is a strong and growing industry. There is little doubt that the present trends toward coordination of farm production with processing and distributing industries will continue in the future, requiring and inducing further changes in farm organization. The prospect of continued change almost surely indicates the need for continued change in agricultural education.

## The Framework of Change

Despite the relative decline in the status of agriculture and the sharp price-cost-income squeeze of the past decade, the American economy has grown sharply over the past three decades. In those thirty years, there has been an increase in real output of the American economy of more than 125 per cent. Per-capita real incomes have risen more than 50 per cent, and the real incomes of wage and salary earners are up about two-thirds.

During all this period, there was a long-run decline in the relative position of agriculture in the American economy. While there has been an increased physical output in American agriculture, there have been sharp relative decreases in real income, in per-capita wage, and in per-capita real family income. There have been sharp and continuing decreases in the number of farms, the number of people working on farms, and the farm population. As a relative, there have been extremely sharp declines in the proportion represented by agriculture in the national holding of private assets, the gross national product, the disposable income of the nation or of any other major measure of the status of agriculture in the economy. Along with this, there has been an apparent decline in the political position of the agricultural industries.

Again paralleling the two major problems, there has been a continuous pattern of technological change in agriculture over the past few decades. The increased use of power, fertilizer, and new strains has been directly associated with changes in output. Concomitantly, there have been changes in the scale, the degree of capitalization, and the organization of agricultural enterprises. Over a very long time, there have been dramatic increases in yields per acre and in yields per animal unit. There is no question whatever of the capacity for continuation of such technological change. (Incidentally, if 1960 total farm output were produced with 1910 methods, 26.3 laborers would have been required instead of the 7 million people now working on farms.)

## The Market Ahead

Using 1955-1957 as a base, it is expected that the American population will increase by 1965 to around 196 million or an increase of 16 per cent over the base. By the same time, it is expected that purchasing power will have increased by something in the neighborhood of 22 per cent. If present demand relationships continue, this would lead to an increase of about eight per cent in per-capita consumption of livestock products at present relative prices. There should be little or no change in per-capita consumption of most crops. If presently prevailing demand relationships prevail, an increase in the market of almost one-fifth can be expected toward the second half of the present decade.

Nonetheless, an increase of even this size would still mean a continuing *excess of agricultural output.* Severe surpluses in wheat would almost surely continue to prevail. Perhaps less drastic surpluses in the feed trades would continue. If heavy feeding resulted from continued surpluses, rather sharp declines in livestock prices would be necessary to move sharply increased livestock output. *No major change can be expected in the size of present surpluses or their localization among commodity groups.* In short, present demand trends with respect to the relative positions of different types of farm products can be expected to continue with little change. Most important, *there is not the remotest possibility that the production capacity of tht United States farm economy will be at all taxed by the rather large increases in total demand now in prospect.*

By 1975, the total market for the farms of this nation should be somewhere between 40 per cent and 50 per cent bigger than they were during the 1955-1957 base period. By that time, population will have risen at least one-third. Present projections indicate that the United States will have a population of somewhere between 210 million and 225 million people, with very sharp changes in age, location, and occupational distributions. Accordingly, the present demand trends may be sharply accelerated as population increases and its distribution shifts.

Real per-capita income has been increasing at a rate of somewhere between two and two and one-half per cent per year. This increase is partly attributable to an average annual rate of increased general capitalization ranging from three to three and one-half per cent. Accordingly, substantially the same present rates of increase in real output—both per-capita and total—may be expected. Given these present rates of productivity and the consequent changes in per-capita real income, total expenditures on consumer goods should be some 60 per cent higher in 1975 than they were 20 years earlier. Yet, there will be only a little per-capita increase in real expenditures on food. Perhaps by 1980, further increases in per-capita real income will have little if any effect on food demands.

By 1975, some rather clearly defined trends in per-capita demand will have appeared. By that time, the per-capita demand for **meat** will have risen about 17 per cent; for **poultry,** about 30 per cent; and for **milk,** about 13 per cent. Present rates of increase in **fruits and vegetables** are expected to continue. Per-capita demand for **eggs** and **cheese** should remain about constant. There should be a leveling off in the decline in per-capita demand for **wheat, potatoes,** and **cotton.** Government estimates indicate an eight per cent per-capita increase in the nonfood use of agricultural products. No clear estimates with respect to exports can be developed, although government projections indicate a relative decline. It is expected that by 1975 the total percentage of disposable income spent on foods and fibers will have fallen to about 18 per cent. In short, present commodity trends will continue and some of them will change in an accelerated way. By 1975, there will have been a massive increase in the size of the food and fiber market of this nation and a pattern of change not greatly different from that presently prevailing.

## The Capacity to Produce

Once more, there are in sight massive increases in demands for foods and fibers by 1965 and even sharper increases by 1975. Yet, there is no evidence whatsoever that even without a new technology the capacity of the American agricultural industries to meet these increased requirements will in any sense be strained. There might be stringencies by 1980, but this is indeed very doubtful.

Given peace, the present technological backlog of known

**Please turn to Page 38**

# MRS. LOVING IS ELECTED PRESIDENT

## Will Succeed Dr. Logan After AVA Convention

By official balloting of the AVA membership, Mrs. Rosa H. Loving was elected AVA President for 1961-62. Mrs. Loving is Virginia State Supervisor of Home Economics Education. She will succeed Dr. William B. Logan, 1960-61 chief executive, after the Kansas City Convention in December.

Ballots were counted at the Washington headquarters on March 18. Official tellers (see cut below) were, left to right, Mrs. Patricia Stinnett, Distributive Education Coordinator, Wakefield High School, Arlington, Va.; Mrs. Purcell M. Robertson, Head of the Home Economics Department of Mt. Vernon High School, Fairfax County, Va. and Floyd E. Mason, Industrial Cooperative Training Coordinator, George Washington High School, Alexandria, Va. Mr. Mason was Chairman of the Tellers.

Eight others from the AVA staff and families and friends of the staff were on hand to help with the ballot counting.

Mrs. Loving is the 33rd President of the Association and the fourth woman to hold the top post. She is currently Vice President of AVA for Home Economics.

## 26.7% of AVA Membership Votes In March Election

There were a total of 6959 ballots cast for the presidency in the March election, which comprises 26.7 per cent of the AVA membership. Votes were received from all states with the exception of Alaska and Rhode Island. Ballots were also received from Canada, Puerto Rico, the Philippines, Virgin Islands, Honduras and Greece.

## Percentages of State Memberships Voting

| | | | | | |
|---|---|---|---|---|---|
| Alabama | 29.8 | Maine | 46.0 | Oklahoma | 16. |
| Arizona | 36.1 | Maryland | 37.9 | Oregon | 34. |
| Arkansas | 22.9 | Massachusetts | 20.5 | Pennsylvania | 34. |
| California | 30.1 | Michigan | 34.8 | South Carolina | 17. |
| Colorado | 69.0 | Minnesota | 24.2 | South Dakota | 24. |
| Connecticut | 15.7 | Mississippi | 22.7 | Tennessee | 23. |
| Delaware | 41.6 | Missouri | 29.7 | Texas | 21. |
| D. C. | 40.7 | Montana | 31.4 | Utah | 26. |
| Florida | 28.8 | Nebraska | 38.7 | Vermont | 30. |
| Georgia | 20.6 | Nevada | 41.0 | Virginia | 40. |
| Hawaii | 29.9 | New Hampshire | 23.5 | West Virginia | 27. |
| Idaho | 36.2 | New Jersey | 27.5 | Washington | 37. |
| Illinois | 25.2 | New Mexico | 32.9 | Wisconsin | 25. |
| Indiana | 29.5 | New York | 15.3 | Wyoming | 30. |
| Iowa | 43.6 | North Carolina | 23.4 | Canada | 13. |
| Kansas | 30.4 | North Dakota | 24.0 | Puerto Rico | 15. |
| Kentucky | 15.2 | Ohio | 25.0 | Vir. Islands | 14. |
| Louisiana | 18.0 | | | International | 14. |

# A FIRST FOR BAYTOWN

**By Norris Young**

BELIEVED TO BE a record, the below pictured six ex-distributive education students trained with Penney's and *stayed with Penney's!*

Baytown, Texas, a small but aggressive little city located in the heart of an industrial area on the lower Gulf Coast claims a record number of ex-DE students employed in one store. Mr. Leslie Couch, Coordinator for the Baytown DE program, has thirty-six students employed in a variety of distributive businesses. Mr. Couch gives his school administrators most of the credit for the growth and development of one of the most outstanding and progressive DE programs in the nation.

One of the many store managers in Baytown who recognize the value of training in the field of distribution is Mr. Lloyd T. Jones, Store Manager of the J. C. Penney Company. Mr. Jones is currently training two distributive education students and has employed two or more DE students for as long as he can remember. He also trained Bobbie Joines, who is now Assistant Manager of the Penney Store in Brownsville, Tex. Two students that he trained have won the Houston Retail Merchants Association Scholarship. He states that he has had exceptionally fine results with DE students and is convinced of the advantages which this preparatory training gives the student in building a career in retailing. Mr. Jones judges a student not only on quota volume of business, but also on how well he reacts to training for present and future jobs.

We talked with some of these ex-DE students. Here are their comments:

Ginger Boykin, Office Manager, a 1951 graduate: "I highly recommend DE to any girl in high school who seeks a career in distribution."

Carrie Lewis, Display Manager, graduate of the 1949 class states that nothing can take the place of actual

**Please turn page**

As Superintendent of the Baytown School System, I appreciate the sincere interest and fine cooperation of the business men and women of our community in training our high school youth for positions in marketing and distribution. It is the combined effort of the businessman, parents, students, and the school that make a distributive education program successful. Many of our students have benefited from the instruction and training recieved in distributive education. We feel that with careful selection, guidance, and placement of students, along with proper coordination and public relations with business people, many other students will find a place for themselves in marketing and distribution.

George H. Gentry

George H. Gentry
Superintendent of Schools

experience. She believes you get ahead faster with DE training because you receive excellent career guidance.

Edward Schiller, Shoe Manager, a graduate of the 1959 class: "DE not only teaches you the fundamentals of distribution and specific instructions about your chosen occupation, it also teaches you how to get along with people."

Bert Cook, Manager of Men's Wear, a graduate of the 1951 class, reports that he took DE in high school because he could see it would be a definite asset to him in his future growth with a department store.

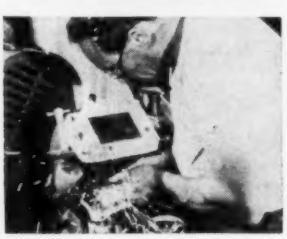
Lynda Clark, a salesgirl who graduated in 1960, says, "I am now attending college part-time and majoring in business, and I am surprised at how much I learned in DE training that applies to my college courses. I enjoy being a saleslady and obtain a great deal of satisfaction out of dealing with the public. Before working in a retail store I thought 'just anybody can do that,' but I found that to be successful in retailing you must learn about merchandise, personality, public relations, and many other things."

Mr. Couch states that one of the rewards of his job is having students such as these. "It gives me an inward satisfaction just to be a part of distributive education, realizing that in some small way I might have had a hand in helping to guide students into successful careers of their choosing."

It is devotion and service to his students, school and community that truly makes Mr. Leslie Couch, Coordinator at Robert E. Lee High School, Baytown, Texas, an outstanding Coordinator.

Ave, Les Couch!

# SEARS, ROEBUCK—AVA FILM IS NOW AVAILABLE



## "Knowledge and Skills" Presents T & I Story

Shown here are several scenes from the film *Knowledge and Skills*, a 20-minute, sound movie produced by The Sears-Roebuck Foundation in cooperation with the American Vocational Association. The film is now ready for distribution through Modern Talking Picture Service, 3 East 54th Street, New York 22, N. Y.

*Knowledge and Skills* presents the T & I story. Designed for students, adults, businessmen, and employers, the film is built around the trade and industrial education program within a community, a typical American town. It reports on government activities, adult education programs and high school student programs.

Prints of the film may be borrowed free except for transportation costs. The distributors offer quick delivery from any one of 30 nationwide film libraries.

# Cooperative and Competitive Activities

**Mildred Huber**

**Bureau of Homemaking Education**
**California State Department of Education**

FOR MANY YEARS teachers and supervisors of home economics have been concerned with choosing educationally sound ways to achieve worthwhile goals in the homemaking program. This concern has increased as we work with Future Homemakers of America on the local, state and national levels.

There are many opportunities for school groups to work with others at all levels. Teachers are interested in providing the kinds of learning experiences which will help students develop sound judgment as to which goals will contribute most to wholesome personal, home, family and community living. Everyone needs to experience success; therefore, it is the job of parents and teachers to help find ways in which youth can succeed, rather than promote methods which result in comparisons between individuals.

To guide students and teachers in making decisions regarding cooperative and competitive ways of working, a new bulletin, *Cooperative and Competitive Activities in Home Economics Education,* was published by FHA. This publication was prepared by the National Advisory Board and headquarters staff of FHA and New Homemakers of America, together with the Home Economics Branch of the USOE.

### Aims of the Bulletin

The bulletin brings together some of the findings of research and discusses the effects which different types of activities have on individuals. It provides background that will help teachers, students and other interested persons establish sound criteria to use in evaluating the many types of situations in which the school or FHA chapter is encouraged to take part.

### Ways to Use the Bulletin

Introduced at the adult section of the 1960 National Meeting of FHA, "Cooperative and Competitive Activities in Home Economics Education" aroused immediate interest. Selecting a typical, but hypothetical situation, role-playing was used to illustrate how a teacher, FHA Chapter officer, supervisor or administrator might apply some of the guide questions in the bulletin to determine whether or not a proposed project might be a worthwhile experience for homemaking students.

This demonstration was followed by buzz groups which discussed the merits of the same hypothetical activity in the light of criteria given in the bulletin. Each group reported the strengths and weaknesses of the activity. (These findings were later summarized in the National FHA office and distributed to states.) A brain storming session to discuss various ways the publication could be used by teacher educators, state supervisors, state advisers and chapter advisers in their own situation further resulted in these suggestions:

States might distribute copies of the bulletin to instructional supervisory personnel in all services of the State Department of Education, particularly to the Vocational Education staff, including all head home economics teacher educators.

Through various professional journals and state newsletters, all educators

**Please turn page**

in the state should be notified of the availability of the bulletin.

Bulletin copies might be taken to interagency council meetings.

Homemaking teachers suggested that chapters purchase copies for their school administrators, counselors, and school and community libraries.

Some states reported plans for using the bulletin on a statewide or regional basis by means of teachers' workshops or homemaking teachers' conferences wherein teachers might try out criteria which they have developed.

Teacher educators have used the bulletin as resource material for both preservice and in-service methods classes. In these sessions some students developed guides for determining the educational value of actual classroom projects in their student teaching centers.

Advisers on the state, district and local levels report that many FHA members become more discriminating in choosing effective ways of working in their chapters, as well as classrooms, as a result of their participation in workshops or officers' training meetings where the bulletin has been used. Officers felt all participants in the training sessions—not just the few responsible for specific presentations—should have an opportunity to review the publication prior to a meeting. Using that procedure, group work was found to be more productive.

One training session had two officers define "Cooperation" and "Competition." Then, one group presented the values and problems related to Cooperative ways of working, while a second group discussed constructive Competition, as well as some of its hazards.

Using the guides for the bulletin, small groups of officers jointly developed criteria which they used to analyze and evaluate one of their present chapter or homemaking class projects. From that procedure they were able to suggest ways in which the project might be improved.

Ways in which chapters might acquaint more school and community groups with the values of the publication are:

Discuss the booklet with representatives of out-of-school groups who work with teenagers, especially those who sponsor projects.

Give copies of the booklet to, and discuss the publication with, school principals, superintendents, school and community librarians.

At an appropriate time, introduce the booklet to the student council. (FHA'ers report chapters usually have representatives on the student council.) Suggest possible use of similar criteria when deciding on school projects.

The following "Guides" are listed in the bulletin.

1. First, as teacher or adviser, the adult responsible should ask herself some very practical questions:

What values, if any, will accrue to the class, chapter, or school?


POWER
FOR PEACE

☆
ARMY
☆
NAVY
☆
AIR FORCE
☆
MARINE
CORPS
☆
COAST
GUARD

ARMED FORCES DAY
MAY 20
ARMED FORCES WEEK
MAY 13-21


Will it help interpret the purposes and importance of homemaking education?

How much time will it take?

Will it require expenditures of money by the school, chapter, or individuals?

2. Because homemaking students are primarily interested in education that provides for growth and development, these questions will also need to be answered by the teacher:

What is the major purpose of the activity? Is the purpose compatible with the educational goals of the homemaking program and our school?

Are choices provided in making decisions about both goals and procedures?

Will individuals learn better and more creative ways of attacking the tasks with which they are faced?

Does the activity provide an opportunity for each individual to develop special competencies in line with his individual needs and interests?

Are the goals or purposes realistic for the group? Will the students understand the goals? Do they really accept the goals?

3. If the activity is of a competitive nature, the following questions are pertinent:

Will attention be focused upon the individual's achievements toward a worthwhile goal, rather than on getting ahead of someone else?

Does the activity allow all members who participate some degree of success?

Can the results be judged fairly or will winning be a matter of personal opinion or luck?

Will the participants know why they won, or why they failed to win?

Are the rewards in proportion to the time and effort required?

Will participation of a few in a competitive activity impose too great a strain of time or money or both on other members of the group, or on other members of the participant's family?

### Purchase Copies

"Cooperative and Competitive Activities in Home Economics Education" may be obtained from: Future Homemakers of America, Office of Education, Department of Health, Education and Welfare, Washington 25, D. C. Price: 15¢ a copy.

While there are no "best" answers to fit all situations, all individuals, nor all times, "Cooperative and Competitive Activities in Home Economics Education" will help students, teachers and FHA members evaluate a proposed project and activity related to homemaking education. From such evaluation, they then must decide for themselves whether or not a particular project will be an educational and worthwhile experience.

**Your Money's Worth**

# Skill First Line Of Fight For Jobs

By SYLVIA PORTER

Today, 3 of every 10 of our millions of unemployed are under 25 years of age. The jobless rate among the young, uneducated, unskilled Americans is by far the highest of any group; the unemployment rate among those who drop out of high school before getting a diploma is double that among high school graduates.

During this decade alone 26 million young Americans will become jobseekers, a fantastic 40 per cent more than entered the labor force during the 1950's. The tidal wave of young jobseekers, the result of our postwar baby boom, already is visible, warns the labor department's manpower chief, Dr. Seymour L. Wolfbein. We are just seeing the beginning. This year alone, about 2,200,000 new workers will be hunting jobs; by 1966 the total will be up to 2,800,000; by 1970, up to 3,000,000.

**The jobless problem already so apparent among younger workers is nothing compared with what it will become unless there are immense improvements in trends of education and training. For the shocking projection is that 30 per cent of the 26 million new workers will fail to complete high school and 2½ million of them will not even complete a grade school education.**

**At the same time, the demand for skilled workers will skyrocket. Another Wolfbein study, to be released this spring, will disclose our country's need for a minimum of 5 million additional skilled workers in this decade just to carry on our normal activities.**

We are, in short, faced with the fantastic paradox in the years right ahead of a critical unemployment problem among young Americans and simultaneously a critical shortage of skilled workers.

Not even the soundest tax, budget, unemployment insurance programs, get at the long-term problem dramatized here.

Since the basic causes of joblessness among young workers are lack of education and inadequate training, what are the cures? We must:

Give much more guidance and counsel on an individual, community and national level to all children at school age on the essential need for getting the maximum training possible. Warn your children and your friends' children that without ample skills they'll start and stay at the bottom of the job and income pile. Pound home just the facts in this column and you'll be achieving a lot. And this guidance, I repeat, must be given at the community and national level too.

**Change your own attitude now and forever about the status of an American with manual training, and so doing help change a youngster's attitude toward being a skilled craftsman. A man who can repair your TV set or banged-up car has an essential place in our economy just as a surgeon does, and he warrants status just as a scientist does. Children reflect our attitude toward occupations, and if we give manual training the respect it deserves, so will they.**

**Provide adequate courses in vocational training. One reason for the appalling rate of drop-outs from high school, Wolfbein stresses, is that "we're not giving the vocational courses the kids want and need."**

**Strengthen our school system in every sphere, and this includes vocational as well as academic schooling. Even as seemingly minor a point as decent machinery on which a young man can be trained is exceedingly important. Our facilities are just not good enough.**

Carefully weigh expanding financial help to students who will become skilled craftsmen, just as we are expanding help to those who will become scientists and engineers. Millions who otherwise will drop to the bottom of the job-income pile then will be encouraged and able to remain in school and obtain training.

To slash our jobless rate and absorb new workers, a strong economic resurgence is obviously imperative and Congress will pass emergency legislation, too. But the fundamental solution to the long-term problem of unemployment among young Americans lies in a new approach toward, and new policies on, their education and training.

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## Agriculture: A hard look

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but unused methods of production are such that present rates of increase can continue and quite easily meet the 1965, 1970, and 1975 targets. With little if any new land, farm output could be raised 50 per cent by 1975 without undue difficulty. Accordingly, no great amelioration in present surplus situations can be expected.

By 1965, aggregate farm output will be at least 10 per cent greater than that of the 1955-1957 base period. Livestock output can increase by one-fourth over these years. Crop output could, in fact, rise by about one-sixth. Given the projected increases, the income from livestock would be expected to rise about seven per cent and income from crops would be expected to fall about four per cent. This would mean a decline in the present prices of farm products compared to other goods. Thus, severe difficulties may continue in wheat, and there may be moderate surplus situations in livestock and feed.

By 1975, and again without substantial development of new land, the labor force in agriculture should have leveled off at about four million. The number of farms probably will have declined to about the same number. Technology for increased production should be ample. Whether it is used depends on market outlooks, availability of credit, relative prices of new equipment as opposed to labor, and the physical adaptability of new techniques to production processes. (It should be stressed that over the years, most new inputs of power, equipment, or other labor substitutes have not merely been substitutes for labor but they also have been associated with increased output.)

### Markets and Government

Two presently active changes should continue over the next 10 or 20 years. First, agriculture is more and more involved in the markets of its suppliers and in the capital market as well. Second, the development over the past thirty years of an almost entirely new food distribution system has led to the emergence of large food distributors and processors buying on a completely different basis from that prevailing 30 years ago. Accordingly, *ways must be sought* whereby agricultural producers can *adjust* to these changing markets.

It is impossible to project government programs far into the future. Assuming peace and the continuation of present technical trends, it is almost impossible to conceive that the present programs associated with the distress of a few large agricultural industries could conceivably be terminated. For better or worse, the projections outlined above have been built on the assumption of a slow relaxation in government programs for support and control.

### The Future and Education

It is reasonably easy to project changes in agricultural management over the next 10 or 20 years because a long and consistent pattern of change extends back a half century. Most important has been the technical substitution of capital for labor. Continued sharp increases in the size of the market for farm products will, in the future, be attributable almost exclusively to population increase. Increases in per-capita real income will have a continuingly diminished part to play. The present pattern of substitution of capital for labor should continue and perhaps be accelerated. Changes in food distribution and the tighter coordination among industries in different segments should also continue. The increasing commercialization, capitalization, and coordination among farm firms should also go ahead over the next two decades.

Agriculture is a declining relative sector, and for the benefit of the nation, this should continue. While it will decline relatively, *agriculture is still the major sector of the American economy. It is here to stay; it will grow much larger.* It has gone through many difficult adjustments, some of which have been well made. It will still be in the process of adjustment to new techniques, to new factor markets, to new and bigger product markets, to the general organization of the American economy, and to new and perhaps different government programs.

In the fact of what agriculture now is, of the way in which it has changed over the past 30 years, and of the prospects for the future, there are serious questions with respect to the adequacy of agricultural education.

Almost surely, it would be unwise to restrict agricultural education and research to improved technical efficiency alone. Such a target would almost certainly worsen the already difficult income situation in many parts of agriculture. There seems to be a clearly recognized necessity to adjust research, training, and service programs toward the ultimate improvement of farm income. Probably there is a necessity for the broadening of agricultural curricula. If some way can be found to continue the research program, it might be desirable to organize curricula in rather broad groupings. Research programs are already showing some orientation toward solution of farm problems and toward expansion of farm demands.

It is difficult if at all possible to separate research, instruction, and service activities of the various public agencies involved in agricultural education. By one means or another, they must coordinate their activities, since for agriculture as a whole, these three broad types of activities are, in fact, closely integrated. I have no competence with respect to the vocational attributes of agricultural education—at least sufficient for me to speak with any respectable measure of competence. Similarly, my own experience is limited largely to training, research, and service in the areas of economics and management. Within those fields I am satisfied that we have not yet made the changes required by the present or the prospective changes in agriculture and the general economy. At least, many of us in this area are aware of the necessities involved here. Presumptuous as it may be, I believe that one could generalize from the area in which I know a bit—my own field of economics—to the other phases of agricultural research, teaching, and service. If we must adjust to the changes ahead, I suspect that other areas of inquiry must do the same. I suspect that this generalization may well be applicable to vocational education as well.

●

# The DILEMMA of Performance Standards

by Mary E. Plunkett

We acknowledge our ideal that the standards of the skills courses we teach shall meet the requirements of the employing community. We shall continue to make every effort to develop in our standards the abilities required to meet these standards, but let us now place into the picture some facts that take the situation out of the *ideal* and into the *real* world of today.

Now that the population remains in school for longer than ever before, the type of student who elects to become a stenographer is quite different from the type who chose this as a career 20 to 50 years ago. Formerly, students who could not learn to write English were dropped out of school, either by their own choice or by that of the school, and usually by second-year high school. These students now remain in school and they are in our stenography and typing classes—and they get jobs.

Our classes may include the few who have the wonderful combination of intellectual ability comparative command of the common conventions of written English, desirable personal character attributes for success in business. and interest and drive in acquiring shorthand, typewriting, and other office skills. These students are "self-starters." We really can take very little credit when they reach and surpass our performance standards.

On the other hand, the shorthand and typing instructor may be faced with a large percentage of young people who have shortcomings in intellectual ability ranging from limited to deplorable, deficient preparation in the basic communication skills, meager motor skills, personality maladjustments, or a complete lack of interest and cooperation.

Thus, we are faced with the task of trying to vocationally prepare a collection of young people with heterogeneous basic skills. The job is a difficult one to perform, particularly in light of standards set up by the business world.

The word "standard" implies hard and fast limits—usually lower limits—but on closer examination we find that business standards are extremely variable. For instance . . .

1. Standards are by no means static. They are affected by economic depression and prosperity, by scarcity of labor, by experience with previous employees, by changes in job content and emphasis, by new machines, by new management policies.
2. Standards differ for different businesses as well as for departments within the same business; e.g., the work of the legal department compared to the work of the credit department in the same company.
3. Businessmen in many instances do not know what they want in terms of knowledge and skill standards.
4. Standards *stated* by business may not have been established through measurement of the workers in the offices from which the reports have come.
5. Standards are often gathered by rather informal techniques: e.g., opinion polls following meetings of office and personnel managers. etc.
6. Applicants are often tested by techniques which really do not measure their complete abilities. This results in able stenographers being placed in positions where they may only type or do some variety of clerical work.
7. Standards may have been established to measure the requirements for the experienced worker.
8. It is extremely difficult to measure the factors of personality, character traits, etc., which are

pertinent to the success of the office worker.

9. The factor of maturity, involving job security, stability, sense of fulfillment, may influence performance on the job which will not be revealed in the initial job performance test. Those of us who have taught evening classes are constantly impressed with the growth shown by some of our former day school students, not only in their study habits and skills, but in the rounding out of desirable personality factors.

Studies have been made of the types of tests which will confront our students seeking employment. Some are more common than others. We might quickly summarize these:

1. The straight copying test varying from 5 to 15 minutes. This may include correction of typographical errors; it may include copying a letter typical of the work of the potential position; it may include producing a report from a rough draft. The required speeds have been found in a wide, wide range—from thirty to seventy words per minute gross typing rate, or forty to sixty words per minute net.
2. The dictation test. The dictation test. The dictation rate may vary in speed from 60 to 120 words a minute depending on the type of work and the company. Most firms are likely to emphasize a standard of neatness and accuracy in the transcript than a definite speed.
3. Despite the intelligent efforts which have resulted in such tests as the National Business Entrance Tests which involved dictation for 30 minutes on untimed material, this type of published material is still not used as often as we might suppose.
4. While many office and personnel managers have tried to set production standards in terms of net words per minute for typists, we are aware that there are some who have set standards of production on certain routine, repetitive typing tasks such as envelopes and fill-ins per hour, copying of form letters per hour, etc. Even in the area of repetitive typing, there are many variables as to length of lines, types of material, etc. I think we all agree that typing proficiency is not based on copy rate but on the ability to turn out typed material in acceptable form within a reasonable length of time.

Production in stenographic and typing work requires intelligence and good judgment as well as acceptable recording and stroking rates. We all can recognize from even this limited description of the efforts to set initial performance standards how very difficult it is to arrive at justifiable quality-quality standards. This list of the conditions affecting performance tests for stenographers and typists is cited only in an effort to help us understand how very difficult it is to solve a complicated problem.

The level of a student's vocabulary is, no doubt, a major determinant affecting the level at which a student should be able to take shorthand. One student writes English correctly and has a big vocabulary. She probably does not have to be able to write as fast as another student whose knowledge of grammar and the written conventions of English is extremely limited and whose vocabulary is small. The first and able student can read her poorest notes because she knows the structure of the English language, and she has a verbal imagination. The poorer English student, on the other hand, must write extremely correct shorthand and use the dictionary constantly; she must stop and ponder the beginnings and endings of sentences because of her limited English background. The student with the poor command of English rarely writes a mailable letter on the first try—or if the vocabulary is in any way specialized, or if the sentences or the letter is long.

These students about whom we often have the most pessimistic predictions often get positions which are satisfying to them, and which they seem to fill to the satisfaction of the employer. It is probably a case where they are transcribing letters dictated by an employer with a limited vocabulary, or if the office has a special vocabulary, by the end of three weeks or a month, she has added these words to her vocabulary, and with the patience of the employer now substituting for the patience of the teacher, she is doing satisfactory work—that is, just so there are not to be new additions to her required shorthand vocabulary.

Some offices need transcribers with high speed and less quality; some offices need transcribers who turn out perfect letters every time; some offices need light transcription of fair quality; some offices have a routine, limited vocabulary; some have a wide range of technical vocabulary. But most offices want workers who can turn out a good volume of work, of acceptable appearance, and with a fairly high degree of mailability.

The fluctuations of the American economy are really the major factor in the establishment of employment standards. In this period of almost universal prosperity, there is an overwhelming demand for our stenographic and typing students. In evaluating their performances against the standards *stated* by business, *published* in the teachers' manuals, or *required* by our courses of study, could we emphasize this concept:

That there is a place in the business world for every student who *wants* to be *a stenographer and who works at it hard enough to read and write a shorthand system.* We must be guided by performance standards, but they have a value only in relation to what is being tested. These standards are only ideals.

And, finally, in measuring our students against whatever performance standards we select, we'll remember that the picture must always include the other intangibles which complete the picture of the successful office employee — effective human relations traits, efficient work habits, pleasing personality, and intellectual abilities appropriate to the position.

I apologize to those who expected they might learn in these last few paragraphs something very definite about performance standards in shorthand and typewriting. You will remember that I used the word "dilemma" at the outset. I do hope that some reasons for the situation may have been pointed out, and a little light shed where sometimes all is darkness and indecision.

# SPEECH NOTES SPEAK ELOQUENTLY FOR THEMSELVES

## A young man tells of apprenticeship value

Ⓐ SPEECH
Central High School
Fort Wayne
Sept. 7th, 1960
8 p.m.

"What Apprenticeship Means to Me"

(Harry J. Thompson – Fort Wayne Tool and Die, Inc.)

I. Introduction
- -- I am not an outstanding student
- -- not a speech maker
- -- but serious in my trade & would like to point out few things apprenticeship has done for me

II. Background
- -- A Hitch in U.S. Navy
- -- Job at Aircraft Gear
- -- Low seniority
- -- Contract broken – closed doors.
- -- I had no special trade so no jobs available
- -- Worked 2 years at odd jobs, seasonal labor
- -- Almost lost everything I owned

Ⓑ Apprenticeship

III. Security
- -- obtained apprenticeship
- -- Working hard to learn
- -- Don't want to be on unemployed rolls again
- -- Employers want above average tradesmen!
- -- Apprenticeship means
  - security
  - education
  - career
  - same as college

IV. Conclusion
- -- Message to boys in audience:

This school and on-the-job training will teach you basic fundamentals

* Not expected to be top man, but qualified tradesman
* Learn by experience (learn more after school)
* Thanks to Industries for cooperating with public schools:

-- END

## Demands of Automation

From Page 13

control and feed-back of machines. Would this in any way lessen his immediate chance of employment? And would it not greatly enhance his chances to assimilate higher order skills if displacement is threatened?

Training in electricity and electronics presents a similar pattern. The skills being taught today are in too many instances completely outdated in terms of existing manufacturing techniques, without even considering recent developments. What electrician can, for example, service the automatic lathe mentioned earlier? It is no longer enough to be able to re-wind a motor and not thoroughly understand the principles of motors, and never touch upon the theory of thermo-electric conversion which may very likely replace some motor applications. It isn't enough to be able to wind antenna coils, practice soldering, or build a superheterodyne receiver, and have no grasp of semiconductor theory, printed circuitry techniques, or the function of magnetic storage devices.

The examples are endless—their substance the same. *The skills being taught are tending to disappear* and little or no enlightenment is being achieved of techniques, processes, and components that are already in widespread industrial use.

The students of today will be the inevitable displacements of tomorrow, unless they are furnished with more than mere props of learning. This is not to say that all vocational trainees should be engineers, or that all manual skills should be abandoned. But, it is to say that vocational trainees must and shall be the technicians of the future. The era of manual skills is approaching its nadir, as the era of the technician is approaching its zenith.

As for the older worker, he faces a monumental adjustment, and his plight is serious indeed. All too often he is reluctant to move to another community where his particular training might still be in demand, and all too often he has lacked the initiative to further his training by his own means. Nevertheless, he can hardly be relegated to a scrap pile like some obsolete machine, nor can he be expected to become the technician of tomorrow.

Given an opportunity, particularly if necessity provides the incentive, people respond to training programs. These older displaced workers may not become technicians as a result of the training, but they can adapt to a new occupation of comparable or even somewhat more advanced skills. This problem is now being only obliquely faced by labor, management, and vocational training schools, whereas the facts urge the immediate implementation of realistic and farsighted training programs.

A concrete example of just such an approach is the Youngstown Sheet and Tube Company in Youngstown, Ohio. Here the Apprentice Training Program embraces 19 different crafts. The two features which distinguish this program from many others, are the emphasis on fundamental theory of not only the specific skill, *but on related theory as well,* and the constant expansion of the program to keep pace with industrial advances. As Mr. M. T. Heeter, the Supervisor of this program, succinctly states: "Our purpose is to prepare and maintain the skill of our workers in terms of the latest equipment and to provide these workers with the knowledge and training to take over greater responsibility."

The ultimate gravity of the problem is not so much the displaced worker of today whose situation is serious enough yet who may still find a comparable unskilled job, but rather the trainee of today, or the displaced worker of tomorrow, who will face a diminution of jobs of comparable skill and level and must upgrade himself to adapt to available opportunities of higher skills.

## ALPHA ZETA ESTABLISHES FOUNDATION TO PROVIDE SCHOLARSHIPS

A foundation to provide scholarships and other benefits for students in agriculture has been established by Alpha Zeta, national honorary agricultural fraternity. It will receive gifts and bequests from donors and will use the proceeds to promote the study and advancement of the many specialized fields of agriculture.

In announcing establishment of The National Alpha Zeta Foundation of America, Inc., Dr. Louis L. Madsen, High Chancellor of the Fraternity, said: "This is a most significant step forward for Alpha Zeta and the agricultural sciences. Rapid advancement of all phases of our agricultural industry has increased the need for young men well trained in its scientific debelopments. This foundation will help to expand the training program."

Dr. Madsen is Director of the Institute of Agricultural Sciences, Washington State University, Pullman, Washington.

Dr. Madsen and the four other members of the Alpha Zeta Council met in Washington, D. C., in March to develop a program for the Foundation. Other members of the High Council, which serves also as the Board of Trustees of the foundation, are: High Censor Fred LeCrone of Oklahome State University, High Scribe Bruce R. Taylor of the University of Arizona, High Chronicler Harry G. Cockrum of Montana State College, and High Treasurer C. B. Gilliland of the U. S. Department of Agriculture.

The National Alpha Zeta Foundation was established by representatives of the Fraternity's chapters during their 1960 Biennial Conclave at Oklahoma State University. It was incorporated in Washington, D. C., and its headquarters are in the Fraternity's national office there.

Alpha Zeta has been offering scholarships each year for graduate study. This year's winners of the scholarships, announced at the March meeting of the High Council are: Lewis H. Edwards, Oklahoma State University ($700.00); Harold H. Hodson, Iowa State University, ($500.00); H. Fred Dowey, University of Maryland ($500.00); and Edward B. Knipling, Virginia Polytechnic Institute, ($500.00).

The foundation is expected to provide funds for a larger number of graduate scholarships as well as those for undergraduate study.

# new books

*Occupational Planning for Women* by Marguerite W. Zapoleon, Harper & Brothers, N. Y., 1961, 276 pp. $5.00. ". . . Addressed to those whose function is to help girls and women in their occupational planning and to those who are responsible for such counsel," this book is an authoritative study of vocational guidance for women. It appraises basic education for guidance personnel and outlines counseling programs for all kinds of institutions, agencies, organizations, and personnel departments. The author also considers the relationship of guidance to life planning.

*Elements of Electronics*, by Hickey and Villines, 2nd Edition, McGraw-Hill Book Company, 1961, 549 pp., $6.00. The second edition of this successful text offers the reader *basic training* in elementary electronics. It has been designed to cover sufficient material to prepare the intermediate level student to advance into any of the branches of electronic engineering. This new edition introduces a section on transistors—including theory, circuitry, and operation. This book serves as a sound foundation for progress in electronics.

*National Electrical Code and Blueprint Reading*, by Kennard C. Graham, American Technical Society, 1961, 153 pp., $4.00. This is a pictorial presentation of safety measures and standard code practices in electrical wiring based on the latest code. Code sections are linked to visual examples and are grouped around five specific fields of application: single-family dwellings, multi-family dwellings, commercial locations, industrial locations, and specialized and hazardous locations. The subject of electrical blueprint reading is carried on simultaneously as a part of the instructional procedure. Electrical plans are inserted at key points throughout the text.

*Education of Teachers: Certification*, National Commission on Teacher Education and Professional Standards, National Education Association, 1201 16th Street NW, Washington 6, D. C., 1960, 364 pp., $3.50. In order to consider some of the many problems related to certification, a national meeting was held in San Diego in the summer of 1960 which brought together representatives of nearly 70 national associations and organizations concerned with education. This book presents an interpretative report, summary, major addresses, and the working papers of this conference. Among the participants there seemed to be general agreement that the legal responsibility and the basic control over certification is and should be vested in the state departments of education.

*Handcrafts Simplified*, by Amon and Rawson, McKnight & McKnight, 1961, 210 pp. $4.40 (cloth) and $2.80 (paper bound). This new book brings together material on all of the major crafts. For beginners, teachers, and experienced craftsmen, the guide shows exactly how to proceed step-by-step. With 368 illustrations the book covers applique, batik, block printing, ceramics, enameling, hooked rugs, jewelry, leatherwork, papier-mache, quilting, stenciling, stitchery, weaving, reed, and rafia. A convenient list of sources of supplies in also offered.

*Experiments With Materials and Products of Industry*, by Arthur W. Earl, McKnight & McKnight, 1960, 368 pp., $6.00. This new book presents research-type problems which require students to think through a problem, design and construct a testing device, set up controls and precautions, conduct the test, and record and analyze results. The work helps students learn through actual experience the value of experimentation and research to industry. Work on industrial problems encourages library work as the student seeks out background material.

*Electrical Principles of Electronics*, by Angelo C. Gillie, McGraw-Hill Book Company, 1961, 532 pp., $7.00. At the heart of electronics, of course, is electricity. This text provides the beginning student with those principles and laws of electricity which are necessary for study in the field of electronics. It gives the reader an opportunity to apply contemporary techniques as a supplement to basic concepts. It stresses the new techniques and devices currently used by the expanding electrical industry.


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## USOE Unit Studies Materials

Among the challenges facing trade and industrial educators is the preparation of adequate curriculum materials suitable for use in a space age. Such materials must be geared to the technological changes taking place, and be appropriate in scope and depth for the various types and levels of programs. Future success in providing these materials will be dependent to a great extent upon the degree to which available talents and resources are utilized and shared not only within a state, but across the nation.

A National Professional Curriculum Materials Committee composed of two persons for each of the Office of Education's four geographic regions, has been directing its efforts toward giving leadership to the total curriculum program throughout the nation.

At the January meeting held in Washington, D. C. recommendations were made for meeting long-range needs. The plan makes provision for bringing about closer coordination and a more effective leadership role at the national level for defining the total scope of curriculum materials needed.

In the meantime, the NPCMC is moving ahead on those things that can be accomplished at present. An annotated listing of all curriculum materials available from each state has been compiled and will be published by the USOE's Division of Vocational Education. This publication will be helpful to persons in all programs in identifying available materials. Each state has identified a Liaison Person for Curriculum Materials Information, and better communication have been implemented. This is an important step in bringing about increased exchange and increased utilization of available curriculum materials and less duplication of effort in curriculum materials development. Ultimately, better cooperation within and among states in curriculum activities will be a result.

One of the factors that has limited utilization of curriculum materials from state to state and even within states has been lack of acceptable standards, definitions, and formats for such materials. The NPCMC is moving forward in an effort to develop recommendations in this area which should bring about a degree of uniformity such as would make curriculum materials more acceptable and usable in all parts of the country.

If the challenge of providing the best possible curriculum materials is to be met, biases must be layed aside and efforts must be pooled toward a common goal.

## Printing Students Form Society

Printing Management students at Western Michigan University are now organizing a Graphic Arts Society whose purposes are to promote interest in the graphic arts industry among high school students, to help members keep abreast of new developments in the industry, and to assist members in job placement upon graduation. At a December organization meeting 22 graphic arts majors met eligibility requirements of the society and signified their intention of becoming charter members. Western Michigan University offers both a Bachelor of Science degree in printing management and a program for the preparation of graphic arts teachers. Membership for the Graphic Arts Society is drawn from these two groups.

## Walter Jones Returns From Italy, Greece

Dr. Walter B. Jones, Director of Vocational Teacher Education Department, School of Education, University of Pennsylvania, returned to his position at the university in October, 1960. He had been on a two-year leave of absence to serve as educational consultant with the OEC-EPA in Italy and Greece. In those two countries Jones was instrumental in establishing vocational teacher education training technical institutes. He also made special missions to Yugoslavia, Turkey, and Ireland.

Dr. Jones reported his work abroad at a meeting during the Annual Schoolmen's Week programs in October, at the annual convention of the AVA, and at the commencement exercises of the Bok Technical High School, Philadelphia, in January.

## Dates Announced for Illinois Exhibits

Dates for the five Illinois Regional Industrial Education Exhibits, held each spring, are as follows: Eastern Illinois University, April 28-29; Illinois State Normal University, April 28-29; Southern Illinois University, April 28-29; Northern Illinois University, April 27-29; and Western Illinois University, April 21-22. The State Industrial Education Exhibit is slated for Illinois State Normal University on May 11, 12, and 13.

Award winners from the five regional exhibits are eligible to participate in the State Exhibit. These exhibits are the first statewide organizations of their kind.

## Hawaii Offers Courses

The following are courses offered by the University of Hawaii College of Education in their coming summer session:

*Industrial Arts for Elementary Teachers*—Creative experiences in general shop activities. Short units in fabrication and technology of metals, woods, drafting, and electricity. Hand and simple machine tool instruction taught through selected elementary education projects and units.

*Problems in Industrial Education*—Individual problems in competence of transforming materials and related technology coupled with factors of instructional nature.

*Seminar in Industrial Education*—Group approach to problems and issues of industrial education with individual problems. Semantic applications and solutions to basic educational problems that have bearing on relationships of general, academic, and industrial education.

## Gearon Catalog

The Gearon Company announces its 1960-61 Lamp Parts Catalog No. 11 is now off the press and ready for distribution. The catalog contains information on parts for making and repairing lighting fixtures and lamps. See Page 27 and write to Gearon Company, 3225 West 26th Street, Chicago 23, Ill.